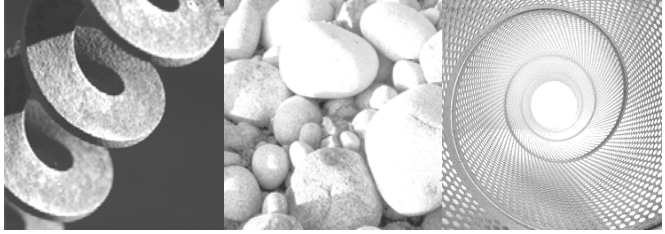

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MassDEP RTN 3-23246

Phase V Status Report No. 13 and Remedial Monitoring Report No. 28

50 Tufts Street, Somerville, Massachusetts

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Acronyms and Abbreviations

µg/L	micrograms per liter
AUL	Activity and Use Limitation
CEP	Critical Exposure Pathway
COPC	Compounds of Potential Concern
CRA	Comprehensive Remedial Action
CSA	Comprehensive Site Assessment
DNAPL	dense non-aqueous phase liquid
EPA	U.S. Environmental Protection Agency
EPMM	Exposure Pathway Mitigation Measure
FIR	Final Inspection Report
GEI	GEI Consultants, Inc.
GLX	Green Line Extension
IH	Imminent Hazard
IRA	Immediate Response Action
lbs	pounds
LQG	Large Quantity Generator
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MBTA	Massachusetts Bay Transportation Authority
MCP	Massachusetts Contingency Plan
MNA	Monitored Natural Attenuation
NAPL	non-aqueous phase liquid
NSR	No Significant Risk
OHM	oil and/or hazardous material
OMM	Operation, Maintenance, and Monitoring
PCE	tetrachloroethylene (perchloroethylene)
PSS	Permanent Solution Statement
RAM	Release Abatement Measure
RAO	Response Action Outcome

RAP	Remedial Action Plan
RIP	Remedy Implementation Plan
RMR	Remedial Monitoring Report
ROS	Remedy Operations Status
RTN	Release Tracking Number
SHE	Substantial Hazard Evaluation
SSDS	sub-slab depressurization system
SVE	soil vapor extraction
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
VOC	volatile organic compound

Executive Summary

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 13 and Remedial Monitoring Report (RMR) No. 28 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts. This report covers the period from June 16, 2017 through December 15, 2017.

Background

From approximately 1955 to 2002, the Property was used for storage and distribution of industrial chemicals, laundry supplies, and dry cleaning supplies. Chemicals stored at, and transported to and from the Property, included chlorinated volatile organic compounds (VOCs). These chlorinated VOCs – particularly tetrachloroethylene (also called perchloroethylene [PCE]), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at the Property and are therefore the compounds of potential concern (COPCs) for the Site. In some buildings within the Site, chlorinated VOCs have been detected in indoor air samples.

The detection of chlorinated VOCs in indoor air at some buildings required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment," (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report" (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011.

Based on amendments to the Massachusetts Contingency Plan (MCP) effective June 20, 2014, the Site does not meet the inclusionary criteria for Tier I (310 CMR 40.0520[2]). GEI reclassified the Site as Tier II on August 1, 2014.

The remedial action alternative (RAA) selected by the Phase III evaluation included:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove COPCs from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

The Phase IV FIR/Phase V ROS documented that construction and implementation of the Comprehensive Response Action (CRA) has been completed; and additional activities, such as operation and monitoring of active remedial systems, will be conducted under Phase V ROS.

In accordance with the MCP, particularly 310 CMR 40.0892, this Phase V Status Report No. 13 and RMR No. 28 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of operation, maintenance, and/or monitoring (OMM) activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the reporting period that are, or may be, affecting the performance of the remedial action.
- A description of the measures taken to correct any conditions or problems that may have been encountered during the reporting period.

Following is a summary of OMM activities conducted at the Site to date:

Capuano Center

An SSDS is installed in the east wing of the Capuano Center. In addition, GEI sealed certain slab/wall joints at the Capuano Center to mitigate a potential preferred migration pathway. GEI conducted 24 rounds of indoor air sampling after the SSDS was installed in February 2007. The soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives.

Between April 22 and April 24, 2015, GEI observed modifications to the SSDS including the installation of three radon fans on dedicated discharge pipes for each collection header extending above the roofline, and removal of the blower and associated equipment and shed housing. Remote telemetry sensors were also installed on the system. GEI performed post-modification indoor air sampling on May 23 and 24, 2015. VOCs were not detected above laboratory reporting limits during the indoor air sampling, indicating that the system as modified continues to meet the remedial objectives.

GEI will continue to inspect and maintain the system, and continue operation and monitoring under ROS.

Residential and Commercial Properties

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended CRA. With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and an IRAC Report Amendment, in accordance with the MCP (310 CMR 40.0427). Following the submittal of the IRAC Report and IRAC Report Amendment, all further response actions were continued under Phase IV. Construction and implementation of the CRA has been completed; additional activities, such as operation and monitoring of active remedial systems, will be conducted under Phase V ROS or, in the future, as active EPMMs implemented as Partial Permanent Solutions Statements (PSSs) with Conditions.

Following is a summary of activities conducted and results obtained with respect to EPMMs through December 15, 2017:

- EPMMs have been installed in 21 residential and commercial properties, not including the EPMMs installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. One EPMM (at 103 Washington Street) was removed in anticipation of redevelopment. The results of post-EPMM installation indoor air sampling indicate that the remaining 20 EPMMs have achieved the remedial objectives.

  The property located at 103 Washington Street is being redeveloped into commercial and residential space by KRE Company. Based on communications with KRE Company, the building is now vacant and will remain vacant until demolition and construction of the new building. Since the building is not occupied, there is not a complete vapor intrusion pathway. Accordingly, GEI observed the removal of the SSDS fans and remote telemetry system at the building on May 31, 2017. GEI is communicating with KRE Company concerning potential vapor mitigation controls that may be incorporated into the new building construction, if necessary.

  The commercial property at 163 Glen Street is being redeveloped into residential space by Somerville Community Corporation (SCC). The developer is incorporating an EPMM into the development project in coordination with GEI.

- ARCADIS prepared an Updated 2015 Method 3 Risk Characterization, which incorporated updated soil, groundwater, and indoor air data sets, and included updated MassDEP toxicity information, particularly for PCE and TCE. Based on the Updated 2015 Method 3 Risk Characterization, and based on the performance of individual EPMMs, a condition of NSR exists for current and future building occupants at each property within the Site.
- MassDEP promulgated amendments to the MCP effective June 20, 2014. GEI continues to assess response actions based on the amendments, and MassDEP's associated guidance.
- Based on the MCP amendments, a Permanent Solution with Conditions Statement will be submitted for each property with an Option 1, 2 or 3 EPMM where the EPMM has achieved the remedial objectives, an AUL has been recorded for the property, and sufficient post-EPMM indoor air sampling has been conducted. The filing of a Partial PSS with Conditions for an individual property documents the achievement of regulatory closure under the MCP. Therefore, the Phase V provisions will not apply to properties for which a Partial PSS with Conditions has been submitted.

60 Tufts Street

An SSDS has been installed in the 17-unit condominium building at 60 Tufts Street. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air testing results indicate that a condition of NSR has been achieved for building occupants at 60 Tufts Street. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives.

Remote telemetry was installed on the system on July 24, 2015. GEI will continue to inspect and maintain the system. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum) at the headers on a quarterly basis. GEI will continue operation and monitoring of the SSDS at 60 Tufts Street under ROS.

50 Tufts Street Property

An SSDS and an SVE system have been installed at the Property. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. The building is currently occupied by several tenants. Based on indoor air testing results collected since the combined system has been in operation, a condition of NSR has been achieved for the building at the Property for full-time commercial workers. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives. GEI will continue operation and monitoring of the combined SSDS/SVE system at 50 Tufts Street under ROS.

Remote telemetry was installed on the 50 Tufts Street system on April 14, 2015. The telemetry system at 50 Tufts Street consists of a wireless remote monitoring hub that will receive telemetry notification from the other active EPMMs at the Site. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum, off-gas treatment efficiency) quarterly, and monitors for off-gas treatment efficiency monthly.

Future Activities and Impact of 2014 MCP Amendments for Active EPMMs

The MCP amendments effective June 20, 2014 include new requirements for active EPMMs implemented to meet the conditions for ROS (310 CMR 40.1026), including an operating regime for the active system and remote monitoring and automatic notification in the event of system failure. Operating regimes for active systems at the Site were included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, and included an OMM plan for the active systems.

Telemetry had previously been installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center to provide shutdown notification to GEI. The MCP amendments require that remote telemetry provide the owner and operator of the building and MassDEP notification upon failure of the system. Remote telemetry has now been installed at each property with an active EPMM, except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is currently infeasible to install telemetry at this property

50 Tufts Street Contaminant Mass Removal

The combined SSDS/SVE system installed at the Property serves to protect indoor air quality and to remove source material from the vadose zone below and around the building. Monitoring data from both the SSDS and SVE components through December 6, 2017 show that approximately 8,863 lbs of VOCs have been removed from the vadose zone at the Property. GEI will continue operation and monitoring of the combined SSDS/SVE system at 50 Tufts Street under ROS.

GLX Project

The Massachusetts Bay Transit Authority (MBTA) previously announced plans to extend existing MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. This Green Line Extension (GLX) Project was to have included significant infrastructure improvements near the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way, and utility improvements. A new train station was proposed to be constructed on the southern boundary of the Site. The MBTA completed initial work on the new Washington Street Pump Station, including excavation and construction dewatering, but suspended all further work on the GLX Project due to budget overruns and project management concerns.

Between September 2012 and April 2014, Kleinfelder, the MBTA's former environmental consultant, conducted subsurface investigations near the Site. The investigations included soil borings and monitoring well installations. GEI has evaluated and addressed soil and groundwater sampling data from these investigations to the extent such data have been provided by the MBTA.

Monitored Natural Attenuation

GEI conducts groundwater sampling once per year at 20 monitoring wells at the Site to confirm that the overburden and bedrock groundwater plumes remain stable. On a semi-annual basis, GEI has been monitoring concentration fluctuations in MW122, MW112A,

MW121D, and MW118D. These results are within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. Overall, results from the 20 monitoring wells sampled as part of the MNA program indicate that the groundwater plumes are stable.

To facilitate construction of the new Washington Street Pump Station, located on the MBTA's property on the south side of Washington Street, the MBTA pumped groundwater to dewater the excavation. According to the MBTA, PCE concentrations in the dewatering effluent increased as pumping continued. The MBTA's pumping therefore induced changes in the distribution of PCE in shallow groundwater at the southern boundary of the Site. Based on the results of sampling from the wells monitored as part of the MNA program, these changes at the southern boundary have not affected the overall stability of the plumes.

GEI will perform additional groundwater sampling in spring 2018.

Remedial Monitoring Report No. 28

Remedial Monitoring Report No. 28, documenting OMM activities of active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

1. Introduction

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 13 and Remedial Monitoring Report (RMR) No. 28 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site; Fig. 1-1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts (Fig. 1-2). This report covers the period from June 16, 2017 through December 15, 2017.

1.1 Contact Information

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1.2 Background

In 2002, a release of chlorinated volatile organic compounds (VOCs) (particularly tetrachloroethylene [also known as perchloroethylene (PCE)], trichloroethylene [TCE], and 1,1,1-trichloroethane [TCA]) to soil and groundwater at the Property was reported to the MassDEP and assigned RTN 3-23246. Three other RTNs were subsequently issued for the Site: 3-24358, 3-24376, and 3-26114. For tracking and reporting purposes, these RTNs have been consolidated under RTN 3-23246.

The detection of chlorinated VOCs in indoor air at some buildings within the Site required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report," (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011.

Based on amendments to the Massachusetts Contingency Plan (MCP) effective June 20, 2014, the Site does not meet the inclusionary criteria for Tier I (310 CMR 40.0520[2]). GEI reclassified the Site as Tier II on August 1, 2014.

The Phase II/Phase III identified the following areas of the Site requiring investigation and mitigation:

- The Property;
- The Capuano Center;
- 60 Tufts Street, a 17-unit condominium building north of the Property; and
- Certain residences and commercial buildings located in the vicinity of the Property.

The RAA selected by the Phase III was:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed,

and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR).

2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove compounds of potential concern (COPCs) from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended Comprehensive Response Actions (CRAs). With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and IRAC Report Amendment, in accordance with the MCP, particularly 310 CMR 40.0427. Following the submittal of the IRAC Report and IRAC Report Amendment, all further response actions were continued under Phase IV and Phase V.

The CRA for the Site includes continued active operation and maintenance of the existing commercial and residential EPMMs, and the SSDS and SVE system at the Property, for the purpose of achieving a Permanent Solution pursuant to 310 CMR 40.0890. It is GEI's opinion that the Site meets the requirements for ROS in accordance with the MCP (310 CMR 40.0893[2]):

- The Phase III RAP was completed on July 14, 2008. The Phase IV RIP was completed on August 10, 2009.
- A final inspection has been performed and confirmed that the CRA has been constructed and implemented in accordance with the Phase IV RIP and is meeting projected design standards to achieve a Permanent Solution.
- Each source of oil and/or hazardous material (OHM) is controlled at the Site. Non-aqueous phase liquid (NAPL) is not visibly present at the Site. Any dense non-aqueous phase liquid (DNAPL) that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. The dissolved-phase groundwater plumes and vapor plumes are

stable and are not causing an increase in concentrations of VOCs in groundwater, soil, soil vapor, or indoor air. There are no unpermitted releases of OHM at the Site.

- Any substantial hazards have been eliminated as documented in the Substantial Hazard Evaluation (SHE) completed by ARCADIS U.S., Inc. (ARCADIS) of Chelmsford, Massachusetts in August 2011. ARCADIS also completed a Site-wide Method 3 Risk Characterization in August 2015, and based on the performance of individual EPMMs, a condition of NSR exists for current and future building occupants at each property within the Site.
- GEI has identified the longest duration of a shutdown of each active EPMM that would be consistent with levels of exposure that do not pose an Imminent Hazard (IH) and poses a condition of NSR.

Construction and implementation of the CRA have been completed; additional activities, such as operation and monitoring of active remedial systems, or installation of new EPMMs, will be conducted under Phase V. The Site will operate in ROS until a Permanent Solution is achieved, except for any portions of the Site that may be closed under Partial Permanent Solutions Statements (PSSs) with Conditions. Operating the SSDS and SVE systems, together with MNA, will ultimately achieve a Permanent Solution for the Site.

GEI will continue to conduct annual operation, maintenance, and/or monitoring (OMM) activities for installed EPMMs where sufficient indoor air sampling has been conducted, and not repeat indoor air testing, to confirm continued system effectiveness. GEI also conducts groundwater sampling and analysis as part of the MNA program.

1.3 Purpose and Scope

The Site entered Phase V with the submittal of the Phase IV FIR/Phase V ROS on August 4, 2011. In accordance with the MCP (310 CMR 40.0892), this Phase V Status Report No. 13 and RMR No. 28 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of OMM activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the reporting period that are or may be affecting the performance of the remedial action.

- A description of the measures taken to correct any conditions or problems that may have been encountered during the reporting period.

This report covers the period from June 16, 2017 through December 15, 2017. Details of the engineering concepts, design criteria, construction plans, and specifications were previously provided to MassDEP as part of the Phase IV RIP, IRA Status Reports, RMRs, and IRA Plan Modifications and are not revisited in this report.

1.4 Public Involvement (310 CMR 40.1400)

UniFirst and GEI conducted a series of community meetings to inform property owners, residents, and City of Somerville (the City) officials about the Site. GEI will provide copies of this Phase V Status Report No. 13 and RMR No. 28 to the local public document repositories that were established for the Site at the Somerville Central Public Library and at the City of Somerville Clerk's Office.

This report was submitted through eDEP (Transaction No. 982977) on February 2, 2018. A copy of the eDEP Transmittal Form (BWSC-108) is provided in Appendix A.

Copies of property owner notification letters, including notice of sampling letters, chemical testing results letters, and other miscellaneous correspondence sent during the reporting period, are in Appendix B.

2. Data Collection

2.1 Groundwater Sampling

GEI conducted semi-annual groundwater sampling at four monitoring wells in November 2017. A summary of all GEI groundwater sampling activities at the Site, including dates of sampling during this reporting period, is in Table 2-1. The groundwater testing results are summarized in Table 2-2, along with groundwater data from previous investigations. Groundwater sampling conducted between 2012 and 2014 by Kleinfelder as part of the Massachusetts Bay Transit Authority (MBTA) Green Line Extension (GLX) Project is summarized in Table 2-3. Monitoring well locations and the monitoring wells sampled by GEI during this reporting period are shown in Fig. 2-1. The laboratory data reports associated with the November 2017 groundwater testing are in Appendix C.

2.2 Comparison of PCE Concentrations to GW-2 Standards

Fig. 1-2 presents the disposal site boundary, based on laboratory analytical results for environmental samples collected by GEI and others. Fig. 1-2 also delineates the areas in which concentrations of PCE in shallow groundwater (i.e., 15 feet or less) exceed current and pending Method 1 GW-2 standards, based on Site-wide groundwater sampling results through April 2017.

The current Method 1 GW-2 standard for PCE in shallow groundwater is 50 micrograms per liter (µg/L). MassDEP has indicated that it intends to revise the Method 1 GW-2 standard for PCE to 20 µg/L, and to promulgate the revised GW-2 standard in MCP amendments to be issued later. As demonstrated in Fig. 1-2, the extent of PCE in shallow groundwater exceeding this likely updated Method 1 GW-2 standard is not significantly different from the extent of PCE in shallow groundwater exceeding the current GW-2 standard (50 µg/L). Extensive sub-slab soil vapor and indoor air testing has been performed at the properties that are within the area where PCE in shallow groundwater exceeds 20 µg/L, except for 159 Glen Street, where GEI has attempted unsuccessfully to gain access to conduct sampling. We do not anticipate that additional investigation will be required if the Method 1 GW-2 standard for PCE is reduced to 20 µg/L.

2.2.1 Groundwater Plume Stability

Based on historic groundwater sampling conducted since 2006, the nature and extent of groundwater contamination at the Site has been well-characterized. In addition, groundwater analytical results are incorporated into the MNA program to support the plume stability monitoring and natural attenuation evaluation, as discussed in Section 7. Based on an

analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the PCE, TCE, and TCA groundwater plumes continue to be stable or are slightly decreasing at the Site.

2.3 Indoor Air Sampling

From January 2006 through December 15, 2017, GEI collected indoor air samples at 75 residences and commercial buildings. Fig. 2-2 shows buildings where GEI conducted indoor air sampling. The procedure for collecting indoor air samples was presented in IRA Status Report No. 3. Samples are typically collected from the basement and first floor of each building.

Between June 16, 2017 and December 15, 2017, GEI collected indoor air samples from one residential property (31-33 Knowlton Street). The indoor air samples were submitted to Accutest for laboratory analysis by EPA Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The recent and historic indoor air testing results are summarized in Table 2-4. The laboratory data reports are in Appendix C.

2.4 Indoor Air Sampling – Checklists and Methods

GEI collected indoor air samples from the basement and first floor of residences using SUMMA® canisters and regulators provided by Accutest. Each canister was certified clean by Accutest. Copies of the certifications are in Appendix C. Typically, indoor air samples were collected over an approximately 24-hour period in residential buildings.

Flow regulators were attached to the SUMMA® canisters at the location of the testing. The SUMMA® canisters were placed so that the air inlet was approximately 3 to 5 feet above the floor. The laboratory-set flow regulator was then turned on, and the starting pressure and time recorded. The regulator was turned off before reaching ambient pressure, and the final pressure and time were recorded. Pre-Sampling Checklists, Indoor Air Sampling Checklists, and Photo Logs completed for each indoor air sample collected during this reporting period are in Appendix D.

2.5 Meteorological Conditions

GEI typically measures outdoor meteorological conditions during each of the indoor air sampling events. GEI also typically measures indoor temperature and barometric pressure during indoor air sampling. Measurements were taken with a portable barometer and thermometer, and were recorded on the Indoor Air Sampling Checklists (Appendix D). Meteorological conditions recorded during indoor air sampling events for this reporting period are summarized in Table 2-5.

3. Capuano Center

3.1 Background

The remedial system at the Capuano Center is an SSDS with 18 sub-slab extraction points in six classrooms of the east wing. The interior slab/exterior wall joints of the six classrooms were sealed with a flexible epoxy sealant and extraction points were installed horizontally through the exterior wall. GEI began operating the SSDS on February 1, 2007.

Prior to April 2015, the extraction points were attached to three collection headers in exterior underground trenches and were operated by a 1.5-horsepower regenerative blower with pressure gauges, controls, and particulate filter housed in a garden-style shed. One discharge pipe extended from the blower shed to above the roofline of the Capuano Center.

In April 2015, system modifications were performed including removing the regenerative blower and associated equipment, and extending the three dedicated discharge pipes with radon fans for each collection header above the roofline of the Capuano Center. During the system modification, remote telemetry was also installed at the Capuano Center system. The remote telemetry consists of two radio nodes and three pressure switches connected to the three radon fans to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system has been significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150: "*Off-gas Treatment of Point-Source Remedial Air Emissions*," dated 1994.

3.2 Remedial Objectives

The design objectives of the Capuano Center remedial system were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the Capuano Center.

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system.

3.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in July 2015. Monitoring of system parameters at the headers (flow rate, vacuum, and photoionization detector [PID] readings) and PID readings at outdoor monitoring points are conducted quarterly. Inspection and monitoring at the Capuano Center were performed two times from June 2017 to December 2017. A summary of monitoring activities conducted during this reporting period is in Table 3-1 and the Field Monitoring Forms are in Appendix E.

3.4 System Modifications

In response to fluctuations in vacuum readings, on December 22, 2016 GEI drilled drainage holes below the fan on each of the PVC header pipes as an interim measure to prevent condensate from building up and freezing inside the pipes during the colder winter months. The drainage holes have been effective in preventing the accumulation of condensate or ice within the header pipes, and vacuum readings have stabilized. On December 6, 2017, GEI adjusted the pitch on one of the PVC header pipes in an effort to improve drainage of condensate back into the ground surface. GEI will evaluate the effectiveness of the pitch modification during winter 2018, and evaluate whether additional pitch adjustments on the system piping are required.

3.5 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system. GEI also performed post-modification indoor air sampling in May 2015. VOCs were not detected above laboratory reporting limits during the indoor air sampling, indicating that the modified system continues to achieve the remedial objectives.

GEI has completed 24 rounds of indoor air sampling in the Capuano Center. The results of each round of sampling show that the system is meeting remedial design objectives (Table 3-2). Based on the indoor air testing results, and regularly collected system performance data, the soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. GEI has

discontinued indoor air sampling and will rely on monitoring of operating parameters for the system to confirm continued effectiveness.

3.6 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the subsurface collection header pipes, or the cleanout drain for the header pipes. If observed, SSDS condensate will be pumped from the headers into the cleanout, which drains into the subsurface at the property.

3.7 Future Phase V Activities

Based on indoor air testing results, a condition of NSR has been achieved for occupants of the Capuano Center and the system is achieving the remedial design objectives. Since remote telemetry is now installed on the system, GEI will continue to monitor operational parameters, sub-slab conditions for the system (e.g., flow rate, vacuum), and collect readings from all outdoor monitoring points quarterly, to confirm ongoing system performance. GEI discontinued monitoring at interior monitoring points in April 2016, and instead relies on vacuum monitoring at exterior monitoring points to evaluate system effectiveness. During monitoring events, GEI will also perform maintenance tasks, which may include draining accumulated water from the collection headers and correcting any issues observed during routine inspection of system components.

3.7.1 Impact of 2014 MCP Amendments for Active EPMMs

The MCP amendments effective June 20, 2014 include requirements for active EPMMs implemented as part of ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system.

The system formerly included telemetry that provided shutdown notification to GEI. The MCP amendments require that remote telemetry provide the owner and operator of the building and MassDEP notification upon failure of the system. GEI installed remote telemetry as part of the system modifications in April 2015 to provide the newly required shutdown notifications.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which is a new requirement under the MCP amendments. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of

exposure that does not pose an IH and that poses NSR is 6 years for the Capuano Center system.

3.7.2 Regulatory Closure

As discussed further in Section 4.5, a Permanent Solution with Conditions can be achieved for properties where an active EPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution with Conditions Statement may be submitted to achieve regulatory closure for the Capuano Center if the owner of the property, the City of Somerville, executes an AUL.

4. Residential and Commercial Properties

4.1 EPMM Installation

Through December 15, 2017, EPMMs had been installed at 21 residential and commercial properties. EPMMs were also installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. The EPMMs at 50 Tufts Street, 60 Tufts Street, and the Capuano Center are discussed separately in this report.

Between June 16, 2017 and December 15, 2017, installation of one new EPMM was initiated as part of the redevelopment of 163 Glen Street.

The property located at 103 Washington Street is being redeveloped into commercial and residential space by KRE Company. Based on communications with KRE Company, the building is now vacant and will remain vacant until demolition and construction of the new building. Since the building is not occupied, there is not a complete vapor intrusion pathway. Accordingly, GEI observed the removal of the SSDS fans and remote telemetry system at the building on May 31, 2017. GEI is communicating with KRE Company concerning potential vapor mitigation controls that may be incorporated into the new building construction, if necessary. Removal of the EPMM at 103 Washington Street reduced the total number of EPMMs currently installed at the Site to 20.

Fig. 4-1 shows the buildings with EPMMs installed. Table 4-1 presents the as-built design information for each installed EPMM.

Prior to installing EPMMs in occupied residences, GEI installed indoor air purifiers with activated carbon filters as a mitigation measure. At residences where the concentrations of chlorinated VOCs constituted a condition of NSR, UniFirst left the air purifiers, effectively giving them to the property owners.

The EPMM designs are categorized as Option 1, Option 2, or Option 3, as conceptually defined below:

- Option 1 – SSDS: This option includes the installation of one or more sub-slab vapor extraction points and a collection piping network connected to an electric fan located outside the building envelope. The fan is equipped with a condensate bypass drain and the fan exhaust is discharged above the eave line of the roof. To date, no SSDSs (except for the system at the Property) require off-gas treatment. This option is installed in buildings with adequate sub-slab air flow and a competent concrete slab, or those properties where vapor barrier and venting systems are infeasible.

- Option 2 – Vapor Trench: The vapor trench option consists of a sub-slab venting system installed in a shallow trench around the interior basement perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the slab and stucco walls. The trench is backfilled with crushed stone and finished with approximately three inches of new concrete to meet the existing slab surface. This option is installed in buildings with poor sub-slab air flow, a competent concrete slab, and a fieldstone and/or brick foundation. Sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.
- Option 3 – New Slab: The new slab installation option consists of installing a new concrete slab, a sub-slab vapor barrier, and a floor venting system; applying cement stucco to the walls; and applying an epoxy vapor barrier to the new slab and stucco walls. This option is installed in buildings with poor sub-slab air flow, an incompetent concrete slab, and a fieldstone and/or brick foundation. As with Option 2, sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.

The decision-making process for selecting a conceptual design based on Site-specific conditions is illustrated in Fig. 4-2. Table 4-1 identifies the design option for each EPMM currently installed and the primary engineering components of each.

4.1.1 Remedial Objectives

The design objectives of the EPMMs were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air in residential buildings.
- Achieve a condition of NSR for occupants of the residence or commercial building.

4.2 Option 1 EPMMs

Option 1 EPMMs consist of active sub-slab depressurization achieved by the installation of a radon fan and associated network of piping. Several of the Option 1 EPMMs were originally installed as Option 2 or Option 3 EPMMs; however, the concentrations of PCE measured in the post-installation indoor air did not constitute a condition of NSR, and a fan was installed. Option 1 EPMMs have been installed at the following 10 properties:

- 35-37 Knowlton Street (originally Option 3)
- 31-33 Knowlton Street
- 13 Morton Street

- 18 Morton Street
- 23 Tufts Street
- 103 Washington Street (deactivated May 31, 2017)
- 95 Franklin Street (originally Option 2)
- 9 Knowlton Street
- 13 Knowlton Street
- 27 Tufts Street (originally Option 3)

Prior to the MCP amendments effective June 20, 2014, these properties could not achieve a Permanent Solution because of the operation of an active system. Based on the MCP amendments, these properties can now achieve regulatory closure with a Partial PSS with Conditions, provided that the property owner executes an AUL. The condition associated with the PSS would be operation and maintenance of the active EPMM in accordance with the AUL.

4.2.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 1 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected one time per winter for two consecutive years. In accordance with recent MassDEP guidance "*WSC No. 16-435: Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure*," dated October 14, 2016 (2016 VI Guidance), GEI has modified the post-installation indoor air sampling for newly installed Option 1 EPMMs to demonstrate effectiveness. Once a pressure differential has been established, one round of indoor air sampling will be performed during the heating season. The samples are analyzed for Site-specific chlorinated VOCs. Following one round of indoor air sampling, differential pressure across the slab will be used to demonstrate system effectiveness.

Inspection and monitoring also includes measuring VOCs at sub-slab sampling points with a PID, collecting pressure measurements using a manometer, and inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 1 EPMMs during this reporting period is presented in Table 4-2.

Based on focused Method 3 risk characterization calculations performed by ARCADIS, which incorporate pre-EPMM indoor air sampling results, several Option 1 EPMMs at the Site may not be required to maintain a condition of NSR. This is a result of the updated MassDEP toxicity characterization for PCE issued in January 2014. During the reporting

period, GEI performed EPMM closure sampling at the following properties in accordance with the 2016 VI Guidance.

31-33 Knowlton Street

On January 25, 2016, a shutdown valve was installed on the SSDS riser pipe at 31-33 Knowlton Street for purposes of conducting shutdown testing. GEI performed four rounds of SSDS shutdown testing in February and November 2016, and March and September 2017. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed for one week prior to collecting indoor air samples. Following sampling, the valve was opened and the fan was reactivated. Based on the results of four rounds of shutdown indoor air sampling (February 2016, November 2016, March 2017 and September 2017) GEI has determined that the active EPMM installed at 31-33 Knowlton Street is not necessary to maintain a level of NSR to residents, and no additional indoor air testing is required. GEI intends to de-register the active EPMM at 31-33 Knowlton Street with MassDEP during the next reporting period.

4.2.2 Telemetry for Active EPMMs

The MCP amendments effective June 20, 2014 include requirements for active EPMMs implemented as part of ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for Option 1 EPMMs. However, telemetry was not installed at Option 1 EPMMs.

GEI has installed a Site-wide telemetry configuration consisting of a wireless remote network that is tied into the local wireless hub at the Property. Table 4-1 presents the Option 1 EPMMs where telemetry has been installed.

Remote telemetry has now been installed at each property with an active EPMM, except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is currently infeasible to install telemetry at this property.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which is a new requirement under the MCP amendments. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the following exposure times were calculated for Option 1 EPMMs where pre-EPMM indoor air data were available:

- 13 Knowlton Street: 54 years
- 23 Tufts Street: 11 years
- 27 Tufts Street: 25 years
- 31-33 Knowlton Street: 31 years
- 35-37 Knowlton Street: 4 years

Several Option 1 EPMMs were installed based on sub-slab soil vapor results, and pre-EPMM indoor air data are not available (including 13 Morton Street, 18 Morton Street, 95 Franklin Street, 103 Washington Street, and 9 Knowlton Street). However, based on the proximity of the active EPMMs throughout the Site, the shutdown exposure times calculated for the properties with pre-EPMM indoor air data are likely representative of the active EPMM properties with no pre-EPMM indoor air data. Therefore, the longest duration of shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR at these properties is likely between 4 and 54 years.

4.2.3 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through December 15, 2017, the results of post-EPMM installation indoor air sampling and monitoring indicate that each of the Option 1 EPMMs installed or activated at residential and commercial properties has achieved the remedial objectives.

4.2.4 System Maintenance and Modifications

No maintenance or modifications of active EPMMs were performed during the reporting period.

4.2.5 Management of Waste Materials

No waste materials associated with Option 1 EPMMs were generated during the reporting period.

4.3 Option 2 and 3 EPMMs

Option 2 and 3 EPMMs consist of passive vapor barriers and do not require mechanical operation or maintenance. Option 2 or 3 EPMMs have been installed at the following 11 properties:

- 95R Franklin Street (Option 2)
- 12 Morton Street (Option 3)
- 11 Morton Street (Option 2)
- 4 Morton Street (Option 3)
- 10 Morton Street (Option 3)
- 91-93 Franklin Street (Option 3)
- 17 Knowlton Street (Option 3)
- 32 Knowlton Street (Option 3)
- 34 Knowlton Street (Option 3)
- 19-19A Morton Street (Option 3)
- 166-168 Glen Street (Option 3)

In accordance with the MCP (310 CMR 40.1000) prior to the June 20, 2014 MCP amendments, regulatory closure was achieved with a Class A-3 Response Action Outcome Partial (RAO-P) Statement for several properties with an Option 2 or 3 EPMM. The properties that have achieved a Class A-3 RAO-P are presented in Fig. 4-3. In the amended MCP, the term "Response Action Outcome" has been replaced with "Permanent or Temporary Solution." Subsequent regulatory closure for individual properties with Option 2 or 3 EPMMs will be achieved with Partial PSSs with Conditions. The condition associated with the PSSs with Conditions will be maintenance of the passive EPMM in accordance with an AUL.

163 Glen Street

The commercial property at 163 Glen Street is being redeveloped into residential space by SCC. GEI has been communicating with the developer regarding incorporating an EPMM into the building construction, which is currently underway.

Response actions include installation of a vapor barrier and a sub-slab ventilation piping network (piping network) beneath the building, and management of potentially contaminated soil. Sub-slab soil vapor sampling points were installed. Sub slab soil vapor sampling will be

conducted following significant completion of building envelope renovation to evaluate post-construction sub-slab soil vapor conditions. Indoor air testing will be conducted following completion of building renovation to demonstrate that the vapor intrusion mitigation measures are effective, and evaluate if concentrations in indoor air constitute a condition of NSR to building occupants.

4.3.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 2 and 3 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected two times per year (including one winter sample) for two consecutive years. In accordance with recent MassDEP 2016 VI Guidance, GEI modified the post-installation indoor air sampling for newly installed Option 2 and 3 EPMMs to demonstrate effectiveness:

- If groundwater concentrations are less than two times the Method 1 GW-2 standard, and sub-slab soil gas concentrations are less than two times soil gas screening values, and indoor air concentrations are less than two times threshold values (TVs), GEI will perform 2 rounds of indoor air sampling, with one round occurring during the heating season.
- If groundwater concentrations are greater than two times the Method 1 GW-2 standard, and/or sub-slab soil gas concentrations are greater than two times soil gas screening values, and/or indoor air concentrations are greater than two times TVs, GEI will perform quarterly indoor air sampling, with two rounds occurring during the heating season.

Additional indoor air sampling beyond the first year may be performed based on property-specific conditions. Samples will be analyzed for Site-specific chlorinated VOCs. During indoor air sampling, the condition of the EPMM will be inspected and, if needed, repairs or modifications will be scheduled.

Following the completion of post-installation indoor air sampling, annual inspections and monitoring will include inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 2 and 3 EPMMs during this reporting period is presented in Table 4-2.

4.3.2 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through December 15, 2017, the results of post-EPMM installation indoor air sampling indicate that the Option 2 or 3 EPMMs currently installed at residential properties have achieved the remedial objectives.

4.3.3 System Maintenance and Modifications

On December 7, 2017, routine maintenance was performed in the form of re-application of epoxy on areas of flaking epoxy at 166 – 168 Glen Street.

4.3.4 Management of Waste Materials

No waste materials associated with Option 2 or 3 EPMMs were generated during the reporting period.

4.4 Activity and Use Limitations

It is anticipated that AULs may be recorded for each property where an EPMM is installed and the property owner executes the AUL. No AULs were recorded during this reporting period.

4.5 Permanent Solution Statements

An evaluation of the MNA program indicates that the groundwater plumes are stable, overall groundwater concentrations of chlorinated VOCs are not increasing, and natural attenuation processes are occurring at the Site which will likely reduce contaminant concentrations in groundwater over time. Previous investigations have also demonstrated that soil vapor plumes are stable. Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. There are no unpermitted releases of OHM at the Site. Accordingly, all sources of OHM at the Site have been eliminated or controlled to the extent feasible.

The Updated 2015 Method 3 Risk Characterization that ARCADIS prepared was presented in Phase V Status Report No. 8 and RMR No. 23. The Updated 2015 Method 3 Risk

Characterization incorporated updated soil, groundwater, and indoor air data sets, and also included updated MassDEP toxicity information, particularly for PCE and TCE. Based on the Updated 2015 Method 3 Risk Characterization, a condition of NSR exists for current and future building occupants at each property within the Site. Based on the Updated 2015 Method 3 Risk Characterization, a condition of NSR does not exist for future construction workers performing excavations at the Property or within the MBTA railroad right-of-way. The inhalation of excavation air pathway associated with the MassDEP change in TCE toxicity is the main driver of potential risks for construction workers in both of these exposure areas. However, these construction worker risks can and should be managed with a Health and Safety Plan (HASP) that is prepared and implemented prior to subsurface work in these exposure areas.

Based on a demonstration of source control at the Site, and a condition of NSR at individual properties, many of the individual properties are eligible for a Partial PSS in accordance with the MCP (310 CMR 40.1000). The filing of a Partial PSS for an individual property documents the achievement of regulatory closure under the MCP. Therefore, the Phase V provisions do not apply to properties for which an RAO-P or Partial PSS has been submitted.

The properties that have achieved a Partial PSS are shown on Fig. 4-3. A summary of the different classes of Partial PSSs to be submitted in the future for properties at the Site, depending on the property-specific conditions and the type of mitigation, if any, are discussed below.

Active operation and maintenance is required for Option 1 EPMMs. Based on the MCP amendments effective June 20, 2014, a PSS with Conditions can be achieved for properties with an Option 1 EPMM. GEI has initiated communications with the owners of properties with Option 1 EPMMs to discuss implementation of AULs to achieve regulatory closure.

4.5.1 Permanent Solution without Conditions

GEI will prepare a Partial PSS without Conditions for residences where multiple lines of evidence have demonstrated the absence of a soil vapor migration pathway to indoor air and an EPMM is not required. GEI will also prepare Partial PSSs for residences where a Method 3 Risk Characterization, based on multiple rounds of sampling, indicated that concentrations of chlorinated VOCs in indoor air constitute NSR, and the feasibility evaluation demonstrated that installation of an EPMM was infeasible. In addition, GEI will prepare a Partial PSS without Conditions for the portion of the Site occupied by public rights-of-way. During the reporting period, a Partial PSS without Conditions was submitted for 0 Franklin Street, 86 Franklin Street, 51 -51A Tufts Street, and 85 Washington Street. The properties that have achieved a Partial PSS without Conditions are shown in Fig. 4-3.

4.5.2 Permanent Solution with Conditions

GEI will attempt to record an AUL at each property with an Option 1, 2 or 3 EPMM to maintain the integrity of the EPMM. After an AUL is recorded, GEI will prepare a Partial PSS with Conditions for residential properties with Option 1, 2 or Option 3 EPMMs where 2 years of post-installation indoor air samples have demonstrated that the EPMM is effective. Following the post-installation indoor air sampling, GEI will continue annual inspections of Option 1, 2 and 3 EPMMs as provided for in the Phase IV RIP. The properties that have achieved a Partial PSS with Conditions are shown in Fig. 4-3. If a property owner does not execute an AUL, inspections will continue as Phase V activities.

4.6 Future Phase V Activities

4.6.1 EPMM Operation and Monitoring

The results of post-EPMM installation indoor air sampling indicate that the Option 1, 2, and 3 EPMMs installed at the Site have achieved the remedial objectives.

GEI will continue to conduct annual OMM activities for installed EPMMs where sufficient indoor air sampling has been conducted, but not repeat indoor air testing, to confirm it is achieving the remedial design objectives.

GEI has been communicating with KRE Company concerning vapor mitigation controls that may be incorporated into the new building construction at 103 Washington Street, if necessary. If a new EPMM is installed, GEI will plan with KRE to continue the operation and monitoring program outlined in Section 4.2 and Section 4.3. GEI will continue to monitor the installation of an EPMM at 163 Glen Street, and continue the operation and monitoring program outlined in Section 4.2 and Section 4.3.

4.6.2 EPMM Modifications

As discussed in Section 4.1, the property located at 103 Washington Street is being redeveloped into commercial and residential space by KRE Company. Based on communications with KRE Company, the building is now vacant and will remain vacant until demolition and construction of the new building. Since the building is not occupied, there is not a complete vapor intrusion pathway. Accordingly, GEI observed the removal of the SSDS fans and remote telemetry system at the building on May 31, 2017.

As discussed in Section 4.2.2, remote telemetry has been installed at each other Option 1 EPMM except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is infeasible to install telemetry at the property.

4.6.3 EPMM Closure Sampling

As discussed in Section 4.2.1, GEI collected indoor air samples from 31-33 Knowlton Street in September 2017 to demonstrate that the Option 1 EPMMs at the property is not required to maintain a condition of NSR.

In accordance with MassDEP's 2016 VI Guidance, GEI will continue the closure sampling program during spring 2018, which consists of the following:

- GEI will perform indoor air sampling at 13 Knowlton Street;
- The SSDS fan will be shut down for 7 days prior to indoor air sampling;
- The shutdown valves will be closed for 7 days prior to sampling to effectively prevent venting; and
- Following each sampling event, the system will be returned to normal operating conditions.

Based on the results of the Option 1 EPMM closure sampling, GEI will re-evaluate the need for an active EPMM to achieve a condition of NSR at these properties.

4.6.4 Installation of New EPMMs

GEI is communicating with KRE Company concerning potential vapor mitigation controls that may be incorporated into the new building construction at 103 Washington Street, if necessary. GEI will continue to monitor the installation of an EPMM at 163 Glen Street.

4.6.5 AULs and Permanent Solutions

As discussed in Section 4.5, the source of contamination at the Site has been controlled. If post-installation indoor air sampling at a property demonstrates that an EPMM continues to achieve the remedial objectives then that property is eligible for a Partial PSS with Conditions.

GEI anticipates recording AULs for each property where an EPMM is installed and a Partial PSS with Conditions is to be issued.

Once the AULs are recorded, GEI will prepare a Partial PSS with Conditions for the properties with EPMMs. As discussed in Section 4.5.1, GEI will prepare Partial PSSs for those properties that did not require mitigation.

5. 60 Tufts Street

5.1 Background

60 Tufts Street is a 17-unit condominium building adjacent to the Property. The remedial system at 60 Tufts Street was designed and constructed as an SSDS. The SSDS includes 12 vertical sub-slab extraction points and 2 horizontal foundation wall extraction points connected to 2 collection headers and a 5-horsepower regenerative blower with pressure gauges, controls, and particulate filter housed in a locked metal enclosure. GEI began operation of the SSDS on April 24, 2009. A discharge pipe extends from the blower through a parking garage deck and discharges above the roofline of the building.

On July 24, 2015, remote telemetry was installed at 60 Tufts Street. The remote telemetry consists of one radio node and one pressure switch connected to the blower to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system will be significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150.

5.2 Remedial Objectives

The objectives of the SSDS at 60 Tufts Street are to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the condominium building.

5.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Operational parameters for the system (e.g., flow rate, vacuum) were historically monitored monthly and indoor air quality in Units 1, 4, and 5 and sub-slab conditions were monitored for 2 years following installation of the EPMM. The Phase IV RIP provided for ongoing annual indoor air sampling. Post-EPMM indoor air sampling and visual inspections

confirmed that the EPMM at 60 Tufts Street has been constructed in accordance with the Phase IV RIP, and has achieved the remedial design objectives. Accordingly, GEI no longer conducts annual indoor air testing, but has continued to monitor operational parameters of the system.

Once remote telemetry was installed on the system on July 24, 2015, GEI began to perform monitoring of system parameters on a quarterly basis in July 2015. Inspection and monitoring at 60 Tufts Street was performed two times from June 2017 to December 2017. A summary of monitoring activities conducted during this reporting period is provided in Table 5-1 and the Field Monitoring Forms are provided in Appendix E.

5.4 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air samples were collected in Units 1, 4, and 5, which are the units closest to the ground floor, for 2 years after EPMM installation. The indoor air testing results indicated that a condition of NSR has been achieved for building occupants at 60 Tufts Street and the soil vapor migration pathway to indoor air has been mitigated to the extent feasible.

5.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the cleanout drains for the sub-surface header pipes, or in the moisture separator installed as part of the blower assembly. If observed, the liquid will be drained and dispensed to the bare ground surface at 60 Tufts Street so that it can infiltrate into the subsurface within the Site boundary.

5.6 System Modifications

No system modifications were performed during the monitoring period.

5.7 Future Phase V Activities

The system is achieving the remedial design objectives and OMM activities will continue. To confirm system performance, GEI will continue to monitor operational parameters and sub-slab conditions for the system (e.g., flow rate, vacuum) on a quarterly basis. During monitoring events, GEI will also perform maintenance tasks as needed, which may include documenting that the blower is in operation, draining accumulated water from the moisture separator or collection headers, changing the filter element for the blower, changing the batteries in the auto-dialer, and correcting any issues observed during routine inspection of system components.

5.7.1 EPMM Closure Sampling

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the active EPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing.

In accordance with MassDEP's 2016 VI Guidance, GEI will initiate a closure indoor air testing program at 60 Tufts Street during spring 2018, which consists of the following:

- A shutdown valve will be installed on the ventilation piping of the EPMM;
- GEI will perform indoor air sampling at 60 Tufts Street;
- The SSDS fan will be shut down for 7 days prior to indoor air sampling;
- The shutdown valves will be closed for 7 days prior to sampling to effectively prevent venting; and
- Following each sampling event, the system will be returned to normal operating conditions.

Based on the results of the Option 1 EPMM closure sampling, GEI will re-evaluate the need for an active EPMM to achieve a condition of NSR.

5.7.2 Impact of 2014 MCP Amendments for Active EPMMs

The MCP amendments effective June 20, 2014 include requirements for active EPMMs implemented as part of ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system and the existing telemetry that provides shutdown notification to GEI. As described above, remote telemetry was installed at 60 Tufts Street in July 2015.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which was a new requirement under the MCP amendments. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 52 years for the 60 Tufts Street property.

5.7.3 Regulatory Closure

As discussed previously in Section 4.5, a Permanent Solution with Conditions can be achieved for properties where an active EPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution Statement with Conditions may be submitted to achieve regulatory closure for 60 Tufts Street if the condominium association for the property executes an AUL.

6. 50 Tufts Street Property

6.1 Background

The remedial system at the Property was originally designed and constructed as an SSDS that includes 22 sub-slab extraction points inside the building, a 15-horsepower regenerative blower with pressure gauges, controls, and particulate filter, and three 2,000-lb activated carbon absorbers operated in series for off-gas treatment. As part of the SSDS installation, the building slab was sealed to minimize vapor transmission through the slab. The cracks and joints in the building slab were filled with flexible sealant and a two-part epoxy coating was applied to the surface of the slab. GEI began operating the SSDS on April 30, 2007.

In July and August 2007, SVE components were added to the system as part of the CRA to address residual VOCs in soil. The SVE system includes seven SVE points installed below the pavement in the north and south parking lots on the Property. The SSDS and the SVE system rely upon shared equipment, including the piping manifold, blower assembly, and off-gas treatment units. GEI began operating the SVE system on August 22, 2007.

In April 2015, a wireless telemetry hub was installed at the Property. The telemetry hub will receive telemetry notification from the other active EPMMs at the Site. A radio node was also installed and connected to monitor the 50 Tufts Street system.

6.2 Remedial Objectives

The design objectives of the combined SSDS/SVE system were to:

- Eliminate or mitigate, to the extent feasible, the soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for a commercial full-time worker.
- Reduce the mass of contaminants in the vadose zone.
- Control the potential migration of soil vapor from the Property to the 60 Tufts Street property.

6.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP. Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in

July 2015. Operational parameters for the system (e.g., flow rate, vacuum, off-gas treatment efficiency) were monitored twice from June 2017 to December 2017. GEI also measures the vapor pressure of sub-slab extraction points and monitoring points periodically. GEI uses these sub-slab pressure measurements to confirm system effectiveness. The pipe and hose connections on the pressure side of the blower are examined during monitoring visits for potential leaks. Leaks, if encountered, are corrected immediately. Carbon change-outs are scheduled based on carbon tank monitoring data to maximize VOC adsorption while maintaining compliance with regulatory requirements regarding discharge of VOCs to the atmosphere. Procedures to address potential spills of spent activated carbon during carbon change-outs have been developed and are presented in the system OMM Plan provided in the Phase IV RIP.

GEI performs monitoring for off-gas treatment efficiency monthly. Based on that monitoring, off-gas treatment efficiency did not meet the 95% removal standard one time during the reporting period just prior to a system carbon change, as described below. A summary of monitoring activities during this reporting period is provided in Table 6-1, and Field Monitoring Forms are provided in Appendix E.

6.4 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. In conjunction with the physical sealing of the slab, this indicates the soil vapor migration pathway to indoor air is being mitigated by the system. Based on indoor air testing results collected since the combined system has been in operation, a condition of NSR for full-time commercial workers has been achieved for the building at the Property.

The SVE system monitoring data show that vacuum influence from the SVE points in the south parking lot extends approximately 30 feet south of the building and from the SVE points in the north parking lot extends onto 60 Tufts Street.

Three influent and two effluent samples from the carbon treatment system were collected in May 2007, June 2007, and March 2008. The results of this sampling were compared with PID field measurements to estimate the total mass of VOCs removed from soil vapor between April 2007 and May 2014. However, GEI collected more recent influent and effluent samples in February 2014. The results of the February 2014 influent and effluent sampling are a better indicator of current system conditions, and were used to estimate the total mass of VOCs removed from soil vapor based on PID field measurements beginning in June 2014. Monitoring data from both the SSDS and SVE components through December 6, 2017 show that approximately 8,863 lbs (approximately 658 gallons) of VOCs have been removed from the vadose zone at the Property (Fig. 6-1).

On November 7, 2017, a scheduled monthly monitoring visit, GEI found the system blower to be inactive. GEI inspected and restarted the system on November 7, 2017. Since the last inspection was performed on October 17, 2017, the system was not deactivated for longer than 21 days. GEI did not receive notification at the time of shutdown; however, follow up troubleshooting of the system indicates that the telemetry node may have been defective. GEI has scheduled a contractor to troubleshoot the telemetry system at 50 Tufts Street on January 23, 2018 and will make telemetry system modifications as required.

During monthly monitoring performed in November 2017, the system was achieving the treatment efficiency of 95% off-gas removal; however, there was off-gas breakthrough from the secondary carbon tank. Accordingly, GEI scheduled a carbon change with the contractor. During the carbon change on December 6, 2017, GEI monitored system influent and effluent PID readings to evaluate the system treatment efficiency just prior to the carbon change. The PID readings indicate that the system was not achieving the 95% off-gas removal standard. GEI re-evaluated the system treatment efficiency immediately following the carbon change, and the system was achieving 100% removal.

6.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the moisture separator installed as part of the blower assembly. If observed, the liquid is drained from the moisture separator and dispensed to the bare ground surface at the Property so that it can infiltrate into the subsurface within the Site boundary.

Based on the previous quantities of spent carbon generated by the system, a 2015 Hazardous Waste Report was submitted to MassDEP on February 26, 2016, identifying the Property as a Large Quantity Generator (LQG) facility. GEI operated the system as a LQG in 2015. GEI will submit the next biennial Hazardous Waste Report in March 2018.

Remediation waste generated during this reporting period consisted of 5,700 lbs of spent activated carbon. The carbon change-out occurred on December 6, 2017 and the spent carbon was delivered to Rineco Chemical Industries, Inc. (Rineco) of Benton, Arkansas for use by cement kilns as a waste-derived fuel. Disposal documentation for this reporting period is in Appendix F.

6.6 System Modifications

No modifications were made to the system during the reporting period.

6.7 Future Phase V Activities

The system is achieving the remedial design objectives. Phase V ROS OMM activities will continue in accordance with the requirements and schedule set forth in the Phase IV RIP.

6.7.1 Telemetry for Active EPMMs

The MCP amendments effective June 20, 2014 include requirements for active EPMMs implemented as part of a ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system. Remote telemetry was installed at the Property in April 2015.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which was a new requirement under the MCP amendments (310 CMR 40.1026[3][e]). Indoor air sampling performed at 50 Tufts Street by GeoInsight in September 2006 identified PCE concentrations ranging from 550 to 800 micrograms per cubic meter (µg/m^3), and TCE concentrations ranging from 16 to 150 µg/m^3. In accordance with the MassDEP Fact Sheet "*TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure*," dated March 27, 2014, the pre-EPMM concentrations in the building would pose an IH even over a short time period, such as a matter of days. However, GEI performed indoor air sampling during an unscheduled SSDS/SVE system shutdown in March 2015. The March 2015 indoor air concentrations did not pose an IH, and TCE was not detected during the March 2015 indoor air sampling. Based on system monitoring logs, the system was likely down for slightly less than 1 month during the March 2015 shut down. This information indicates that an IH would not be present during a minor shut down of the 50 Tufts Street system. Because the building is currently occupied, sampling cannot be conducted after the system has been shut down for a full 60 days or longer, so the maximum duration for a system shutdown that might pose an IH is not known at this time.

GEI will continue to operate the active EPMM at 50 Tufts Street.

7. Monitored Natural Attenuation

7.1 MNA Program Objectives

MNA is part of the remedial strategy to reach a Permanent Solution for the Site. GEI has implemented an MNA program to confirm on-going natural attenuation is occurring at the Site. The MNA program is described in the MNA OMM Plan presented in the Phase IV RIP. The primary elements of the MNA program include:

- Plume Stability Monitoring: A groundwater sampling plan to monitor overburden and bedrock groundwater plume concentrations through time to confirm that the groundwater plumes are stable, and that overall groundwater concentrations of chlorinated VOCs are not increasing.
- Natural Attenuation Evaluation: An evaluation of overburden and bedrock groundwater plume concentrations through time for indications of the presence and rate of natural attenuation processes.

7.2 MNA Activities

GEI conducted the following MNA activities during the reporting period:

- Groundwater Level Measurements: GEI measured groundwater levels at monitoring wells shown in Table 7-1.
- Groundwater Sampling: GEI collected groundwater samples from four monitoring wells in November 2017, and submitted them for chemical testing for VOCs by EPA Method 8260B. The sampling locations are shown in Fig. 2-1, the chemical testing results are shown in Table 2-2, and the laboratory data reports are in Appendix C.

GEI evaluated the groundwater chemical testing results collected during MNA activities to update and supplement the plume stability monitoring and natural attenuation evaluation. During this reporting period, annual groundwater sampling was conducted by GEI at four monitoring wells shown in Fig. 2-1.

Based on an analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the PCE, TCE, and TCA groundwater plumes continue to be stable.

GEI has been monitoring concentration fluctuations in groundwater PCE concentrations in monitoring wells MW122 and MW112A, and TCE concentrations in monitoring wells

MW118D and MW121D. The concentrations increased in MW112A and MW121D, and decreased in MW118D and MW122, during the last reporting period. These results are within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. GEI will perform additional groundwater sampling of these monitoring wells in the spring of 2018.

To facilitate construction of the new Washington Street Pump Station, located on the MBTA's property on the south side of Washington Street, the MBTA pumped groundwater to dewater the excavation. According to the MBTA, PCE concentrations in the dewatering effluent increased as pumping continued. The MBTA's pumping therefore induced changes in the distribution of PCE in shallow groundwater at the southern boundary of the Site. Chlorinated VOCs were not detected in shallow groundwater near the new Washington Street Pump Station prior to the dewatering pumping (KE-117 in 2012). In February 2014, to simulate dewatering conditions, Kleinfelder conducted pumping at KE-117 and then collected a groundwater sample for testing. The concentration of PCE was 760 µg/l in a groundwater sample collected under pumping conditions. After the pumping ceased, the concentration of PCE quickly decreased to 4.3 µg/l (April 2014). Based on this dewatering simulation at monitoring well KE-117, shallow groundwater concentrations are expected to revert to pre-pumping conditions following the completion of groundwater dewatering.

Based on the results of Site-wide groundwater sampling from the wells monitored as part of the MNA program, these localized changes at the southern boundary during temporary dewatering have not affected the overall stability of the plumes.

8. Remedial Monitoring Report No. 28

Remedial Monitoring Report No. 28, documenting OMM activities for active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

9. References

MassDEP (1994). "Off-gas Treatment of Point-Source Remedial Air Emissions," Massachusetts Department of Environmental Protection, Policy #WSC-94-150, dated 1994.

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GEI (2006). IRA Status Report No. 2 and Plan Modification No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 13, 2006.

GEI (2007). IRA Plan Modification No. 4, 50 Tufts Street, Somerville, MA, RTNs 3-23246 and 3-26114, dated February 22, 2007.

GEI (2007). IRA Plan Modification No. 1, 50 Tufts Street, Somerville, MA, RTN 3-26114, dated April 12, 2007.

GEI (2007). IRA Plan Modification No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 5, 2007.

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GEI (2007). Remedial Monitoring Report No. 1, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 2, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30 2007.

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GEI (2007). Monthly Remedial Monitoring Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). IRA Plan Modification No. 7, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.

GEI (2007). IRA Plan Modification No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 19, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 6A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 31, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 6B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). IRA Status Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 9, 2007.

GEI (2008). IRA Status Report No. 5 and Remedial Monitoring Report (RMR) No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 12, 2008.

GEI (2008). Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated July 14, 2008.

GEI (2008). IRA Status Report No. 6 and Remedial Monitoring Report (RMR) No. 9, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 10, 2008.

GEI (2009). IRA Status Report No. 7 and Remedial Monitoring Report (RMR) No. 10, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2009). Phase IV Remedy Implementation Plan (RIP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2009). IRA Completion Report and Remedial Monitoring Report (RMR) No. 11, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2010). Phase IV Status Report No. 1 and Remedial Monitoring Report No. 12, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2009.

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GEI (2011). Immediate Response Action Completion Report Amendment, RTN 3-23246, 50 Tufts Street Site, Somerville, Massachusetts, dated April 1, 2011.

GEI (2011). Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report. 50 Tufts Street, Somerville, Massachusetts, dated August 4, 2011.

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GEI (2012). Phase V Status Report No. 2 and Remedial Monitoring Report No. 17, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2012.

GEI (2013). Phase V Status Report No. 3 and Remedial Monitoring Report No. 18, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2013.

GEI (2013). Phase V Status Report No. 4 and Remedial Monitoring Report No. 19, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2013.

GEI (2014). Phase V Status Report No. 5 and Remedial Monitoring Report No. 20, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2014.

GEI (2014). Phase V Status Report No. 6 and Remedial Monitoring Report No. 21, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 1, 2014.

GEI (2014). Release Abatement Measure Completion Report for 34 Knowlton Street, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 13, 2014.

GEI (2015). Phase V Status Report No. 7 and Remedial Monitoring Report No. 22, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2015.

GEI (2015). Phase V Status Report No. 8 and Remedial Monitoring Report No. 23, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2015.

GEI (2016). Phase V Status Report No. 9 and Remedial Monitoring Report No. 24, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2016.

GEI (2016). Phase V Status Report No. 10 and Remedial Monitoring Report No. 25, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2016.

GEI (2017). Phase V Status Report No. 11 and Remedial Monitoring Report No. 26, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2017.

GEI (2017). Phase V Status Report No. 12 and Remedial Monitoring Report No. 27, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2017.

Tables

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
5/23/2006	SH-MW1, SH-MW2, SH-MW3, GEO-1, GEO-2, MW-1, MW-	NA
5/24/2006	GEO-3, GEO-4, GEO-5, GEO-6, MW101, MW102 MW103,	Field Duplicate of GEO-3
5/25/2006	SH-4	NA
Groundwater Sampling		
8/7/2006	MW103	NA
Quarterly Groundwater Sampling		
10/4/2006	SH-MW1, SH-MW2, SH-MW3, GEO-3 GEO-4, GEO-5 and	Field Duplicate MW900 (GEO-3)
10/5/2006	GEO-1, GEO-2, MW101, MW102, MW103, MW104 and	NA
Quarterly Groundwater Sampling		
1/16/2007	SH-MW1, SH-MW2, GEO-3, GEO-4, GEO-5, GEO-6,	Field Duplicate MW900 (GEO-6)
1/17/2007	SH-MW3, MW-1, MW-3, GEO-1 and GEO-2	Field Duplicate MW800 (GEO-1)
1/18/2007	MW103, MW106, MW107, MW108, MW109, MW110 and	NA
Groundwater Sampling		
2/20/2007	MW113 and MW114	NA
3/23/2007	MW112A, MW115R AND MW116	NA
Quarterly Groundwater Sampling		
4/12/07	SHMW1, SHMW3, GEO1, GEO2 and MW113	NA
4/13/07	GEO3, MW101, MW102, MW103, MW104, MW106,	Field Duplicate MW900 (MW101)
4/16/07	SHMW2, GEO4, GEO5, GEO6, MW105, MW108, MW109,	Field Duplicate MW901 (GEO6)
5/23/07	MWCS1	NA
Quarterly Groundwater Sampling		
7/18/2007	MW102, MW107, MW108, MW11, MW112A, MW113, MW114, MW115R, M2116 and MW117S	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
7/19/2007	SHMW2, MW104, MW105, MW106, MW117T, MW117D,	NA
7/20/2007	MW118S, MW118T and MW118D	NA
Groundwater Sampling		
8/22/07	MW119S, MW119T, MW120S and MW120D	NA
8/30/07	MW118S, MW118T and MW118D	NA
Quarterly Groundwater Sampling		
10/10/2007	MW102, MW105, MW106, MW107, MW108, MW111, MW112A, MW113, MW114, MW115	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113)
10/11/2007	MW117T, MW117D, MW118S, MW118T, MW118D	NA
10/12/2007	MW116, MW119S, MW119T, MW120S, MW120D,	Field Duplicate MW901 (MW116)
10/15/2007	MW104, MW117S	NA
10/22/2007	MW121S, MW121D	NA

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, and April 2016 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/9/2008	MW105, MW115	NA
1/10/2008	MW102, MW106, MW107, MW108, MW111, MW112A	Sample from MW102 was used for MS/MSD
1/11/2008	MW104, MW113, MW114, MW116, MW117S, MW118S, MW201, MW202	Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
1/15/2008	MW117T, MW117D, MW118T, MW119S, MW120S,	NA
1/16/2008	MW118D, MW119T	NA
1/17/2008	MW120D	NA
Groundwater Sampling		
1/30/2008	MW122	NA
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D,	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D,	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, and April 2017 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/12/2009	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
1/13/2009	GEO-1, GEO-2, MW117S, MW117T, MW117D, MW119S,	NA
1/14/2009	MW104, MW-3, MW116, MW118S, MW118T, MW118D	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
4/13/2009	GEO-1, GEO-2, MW105, MW112A, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
4/14/2009	MW-3, MW104, MW117S, MW117T, MW117D, MW118T,	NA
4/15/2009	MW102, MW116, MW118S	NA
Quarterly Groundwater Sampling		
7/14/2009	MW105, MW112A, MW116, MW118T, MW121S, MW121D, MW202	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
7/15/2009	GEO-1, GEO-2, MW-3, MW104,MW117S, MW117T, MS117D, MW118S, MW118D, MW119S, MW119T,	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
10/14/2009	GEO-1, GEO-2, MW104, MW105, MW112A, MW116, MW117S, MW117D, MW118S, MW118D, MW121S,	Field duplicate MW112A (MW900) Field duplicate MW118D (MW901)
10/15/2009	MW119T, MW119S, MW120S, MW120D, MW118T	Sample from MW104 was used for MS/MSD
10/16/2009	MW117T, MW3	
Annual Groundwater Sampling		
4/12/2010	MW104, MW105, MW112A, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202	Field duplicate MW112A (MW900) Sample from MW104 was used for MS/MSD
4/13/2010	GEO-1, GEO-2, SH-MW3, MW116, MW117S, MW117T, MW117D, MW119S, MW119T, MW120S, MW120D	Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling		
10/27/2010	MW112A, MW122	NA
Annual Groundwater Sampling		
4/20/2011	MW105, MW112A, MW117D, MW118S, MW118T,	Field duplicate MW112A (MW900)
4/21/2011	GEO-2, SH-MW3, MW104, MW116, MW117S, MW117T	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD
4/22/2011	GEO-1, MW119S, MW119D, MW120S, MW120D, MW202	
Semi-Annual Groundwater Sampling		
11/16/2011	MW112A, MW122	NA
Annual Groundwater Sampling		
4/16/2012	SH-MW-3, MW112A, MW117S, MW117T, MW117D, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D	Field duplicate MW112A (MW900)
4/17/2012	GEO-1, MW104, MW105, MW116, MW118T, MW122, MW202	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, and April 2017 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/12/2012	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/23/2013	SH-MW-3, MW105, MW117T, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, MW202	NA
4/24/2013	GEO-1, MW104, MW112A, MW116, MW117S, MW117D, MW118S, MW118T, MW118D	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901) Sample from MW104 was used for MS/MSD
5/1/2013	GEO-2	
Semi-Annual Groundwater Sampling		
11/18/2013	MW112A, MW118D, MW121D, MW122	NA
Kleinfelder Groundwater Sampling		
2/6/2014	KE-114-140206, KE-115-140206, KE-116-140206, KE-117-140206, MW-SR-140206, WashSW-140206	Sample from WashSW-140206 was a grab sample from the base of an open excavation.
4/8/2014	KE-202D, KE-202S	NA
4/9/2014	KE-117	NA
4/14/2014	KE-204, KE-206, KE-208	NA
4/15/2014	KE-205, KE-207, KE-209, KE-210	NA
Annual Groundwater Sampling		
4/30/2014	MW104, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD
5/1/2014	MW117S, MW117T, MW117D, MW118S, MW118D, MW118T, MW119S, MW119T, MW120S, MW120D, MW116	Field duplicate MW116 (MW900)
6/11/2014	MW112A	NA
Semi-Annual Groundwater Sampling		
11/18/2014	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/2/2015	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118D, MW119S, MW119T, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW901)
4/3/2015	MW118T, MW120S, MW120D	
4/17/2015	MW112A	Field duplicate MW112A (MW900)
Semi-Annual Groundwater Sampling		
11/19/2015	MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/28/2016	MW1112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, GEO-1	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/29/2016	MW104, MW116, MW202, GEO-2	Sample from MW104 was used for MS/MSD

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012 April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, and April 2017 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/21/2016	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/17/2017	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202, GEO-1	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901) Sample from MW104 was used for MS/MSD
4/18/2017	MW112A, MW119S, MW119T, MW120S, MW120D, GEO-2	
4/28/2017	SH-MW-2, MW104	
Semi-Annual Groundwater Sampling		
11/8/2017	MW118D, MW121D, MW122	
11/10/2017	MW112A	NA

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, and April 2017 were also submitted for natural attenuation parameter testing.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-1																				GEO-2										
Sample Name:			GEO-1	GEO-1	GEO-1	GEO-1	MW800 (FD)	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			8/16/04	5/23/06	10/5/06	1/17/07	1/17/07	4/12/07	4/15/08	7/15/08	10/21/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/22/11	4/17/12	4/24/13	4/30/14	4/2/15	4/28/16	4/17/17	8/16/04	5/23/06	10/5/06	1/17/07	4/12/07	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10
Collected By:			GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																															
Volatile Organic Compounds (VOCs)																																	
Acetone	8260	µg/l	< 400	< 5.0	< 5.0	< 5.0	< 5.0	9.7	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<50	487	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 20	< 0.50	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5	< 5.0	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<50	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 25	< 5.0	< 5.0	4.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 20	3.6	1.4	2.3	2.3	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 20	0.76 J	0.86 J	0.76 J	0.84 J	0.77 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 20	< 1.0	< 1.0	0.60 J	0.61 J	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.62 J	< 1.0	0.60 J	0.84 J	< 1.0
Chloromethane			< 40	< 2.0	3.7	< 2.0	1.8 J	6.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 20	4.3	2.9	5.4	5.6	10.6	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	2.2	2.0	< 5.0	2.5	1.1	< 1.0	< 1.0	0.29 J	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	13.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			39.8	989	1330 E	247	241	8980	3.0	26.2	1.4	1.3	1.7	< 1.0	2.0	< 1.0	7.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	23.2	14.2	26.3	25.2	11.5	13.4	8.4	7.0	17.0	6.5	10.8	13.8
cis-1,2-Dichloroethylene			< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	1.6	9.0	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	3.1
trans-1,2-Dichloroethylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	367	< 25	< 50	< 25 K-	< 25	< 100	<630	NT	< 25	< 25 R	< 130	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25
Ethylbenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	3.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 20	64.2	5.3 J+	2.5	2.7	6.9 J+	7.9	< 1.0	< 1.0	0.26 J	1.1	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<5.0	37.6	79.9	12.8 J+	9.8	16.5	< 1.0	5.9	0.45 J	< 1.0	0.29 J	0.56 J	< 1.0
Methylene chloride			< 200	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	< 5.0	< 5.0	< 5.0	8.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	NT	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 20	5.7	3.0 J	5.7	5.8	15.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			1880	18600	19500	17300	18000	48500	135	268	115	76.1	64.3	71.5	698	79.2	2580	171	85.1	252	162	134	1340	285	131	693	1420	120	115	140	110	263 G	202	167	480
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<50	NT	< 10	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 20	1.2	0.72 J	1.1	0.99 J	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1720	19100	9620 J+	13300	14200	42500 J+	29.5	217	8.5	9.2	10.0	5.9	16.6 J+	7.0	12.2	3.7	2.1	2.3	3.0	1.3	9.1	490	125	376	867	147 J+	70.5	25.5	22.5	110	29.7	37.5 J+	61.9
1,1,2-Trichloroethane			< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			898	10000	5530	9090	9660	30600	18.9	70.6	11.0	8.9	8.0	10.1	31.2	8.2	35.6	6.5	4.8	5.9	7.1	5.4	2.2 J	60	27.3	170	602	36.0	22.8	20.9	19.7	99.7	31.7	33.4	103
Vinyl chloride			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 10	< 1.0	< 1.0	11.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	ND	< 1.0	< 1.0	14.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	
Arsenic																											< 10								NT
Iron																											< 100								< 100 J+
Manganese																											NT								< 15
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l																									< 10								1.58
Ethane	8015	µg/l																									< 10								< 0.10
Ethylene	8015	µg/l																									< 10								< 0.10
Alkalinity	E310.1	µg/l																									104000								44100
Chloride	E325.3	µg/l																									1310000								165000
Iron, Ferrous	3500FE B	µg/l																									NT								NT
Nitrate & Nitrite as N	E353.2	µg/l																									7000								6700
Nitrogen, Nitrate	E353.2	µg/l																									7000								6700
Nitrogen, Nitrite	E354.1	µg/l																									< 10								< 10
Sodium	6010C	µg/l																									NT								NT
Sulfate	E375.4	µg/l																									88000								117000
Surfactants	E425.1	µg/l																									< 100								< 100
Total Organic Carbon	E415.1	µg/l																									< 1000								2400

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-2 (cont.)							GEO-3							GEO-4					GEO-5					GEO-6				
Sample Name:			GEO-2	GEO-2	GEO-2	GEO-2	GEO-2	MW901 (FD)	GEO-2	GEO-3	GEO-3	MW900 (FD)	GEO-3	MW900 (FD)	GEO-3	GEO3	GEO-4	GEO-4	GEO-4	GEO-4	GEO4	GEO-5	GEO-5	GEO-5	GEO-5	GEO5	GEO-6	GEO-6	GEO-6	GEO-6	MW900 (FD)
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			4/21/11	5/1/13	4/30/14	4/2/15	4/29/16	4/29/16	4/18/2017	8/16/04	5/24/06	5/24/06	10/4/06	10/4/06	1/16/07	4/13/07	8/16/04	5/24/06	10/4/06	1/16/07	4/16/07	8/16/04	5/24/06	10/4/06	1/16/07	4/16/07	8/16/04	5/24/06	10/4/06	1/16/07	1/16/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 5.0	< 10	< 10	< 10	< 10	< 10	<10	< 1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 5.0	< 5.0	< 100	< 50	< 2000	< 5.0	< 5.0	< 250	< 5.0	< 200	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 100	< 0.50	< 0.50	< 10	< 5.0	< 100	< 0.50	< 0.50	< 25	< 0.50	< 10	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 50	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	0.81 J	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	0.56 J	0.76 J	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	2.5	< 20	< 10	< 100	< 1.0	0.62 J	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	11.6	11.6	2.6	< 1.0	< 100	2.7	7.1	< 20	< 10	< 100	3.0	9.7	< 50	< 1.0	< 10	2.0	4.4	1.7	1.6
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			3.7	7.8	3.8	3.1	4.3	4.9	1.5	108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 100	6.1	17.8	< 20	< 10	< 100	8.9	32.7	< 50	< 1.0	< 10	4.6	11.0	4.4	3.2
cis-1,2-Dichloroethylene			2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	2.8	2.6	1.2	< 1.0	< 100	6.3	16.7	< 20	5.5 J	< 100	12.5	35.2	< 50	< 1.0	14.8	9.1	15.4	7.7	6.9
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 2.0	< 2.0	< 40	< 20	< 100	< 2.0	< 2.0	< 100	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25 K-	< 25	< 25	< 25	<130	NT	< 25	< 25	< 25 R	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 5.0	< 250	NT	< 25	< 25 R	< 1300	< 25	NT	< 25	< 25 R	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	4.5	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	1.2 J+	1.1 J+	< 1.0	< 1.0	< 100	< 1.0	1.5 J+	< 20	< 10	< 100	1.3	3.3 J+	< 50	< 1.0	< 10	1.3	1.9 J+	1.2	1.2
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 5.0	< 2.0	< 2.0	< 5.0	< 2.0	< 5.0	< 2.0	< 1000	< 2.0	< 2.0	< 40	< 20	< 1000	< 2.0	< 2.0	< 100	< 2.0	< 100	< 2.0	< 2.0	< 2.0	1.3 J
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 40	< 20	NT	< 2.0	< 2.0	< 100	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	0.84 J	< 100	< 50	< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			66.4	140	119	76.3	147	145	50.7	4020	162	157	2720	2340	529	93.2	12900	6690	24100	16700	8240	14400	2440	12900	254 F+	17.9	782	675	1980	632	594 F+
Tetrahydrofuran			< 10	< 10	< 10 G	< 10	< 10	< 10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 200	< 100	NT	< 10	< 10	< 500	< 10	NT	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			4.3	16.0	15.5	11.4	18.4	20.4	5.2	204	4.0	4.4	78.2 J+	77.2 J+	16.2	< 1.0	1170	113	321 J+	113	70.9	646	246	652	< 50	< 1.0	27.8	42.5	77.2 J+	33.7	25.3
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			14.7	14.3	12.2	9.9	12.7	12.8	7.1	507	14.4	14.1	209	207	70.2	10.0	720	86.8	235	129	74.8	404	146	446	< 50	< 1.0	122	78.8	131	75.3	56.5
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 1.0	< 1.0	< 20	< 10	< 200	< 1.0	< 1.0	< 50	< 1.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	< 1.0	< 1.0	< 20	< 10	ND	< 1.0	< 1.0	< 50	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l						NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		
Arsenic			NT	NT	NT	NT	NT																							< 10	< 10
Iron			< 100	< 100	NT	NT	NT																							< 100	< 100
Manganese			< 15	< 15	< 15	< 15	< 15		<15																					NT	NT
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others								NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		
Methane	8015	µg/l	< 0.30	< 0.30	< 10	< 10	< 10		<10																					< 10	< 10
Ethane	8015	µg/l	< 0.10	< 0.10	< 10	< 10	< 10		<10																					< 10	< 10
Ethylene	8015	µg/l	< 0.10	< 0.10	< 10	< 10	< 10		<10																					< 10	< 10
Alkalinity	E310.1	µg/l	50400	64600	69000	48400	50300		34000																					134000	133000
Chloride	E325.3	µg/l	53700	252000	175000	220000	290000		287000																					825000	825000
Iron, Ferrous	3500FE B	µg/l	NT	NT	< 100	< 100	< 100		<100																					NT	NT
Nitrate & Nitrite as N	E353.2	µg/l	4400	3300	1700	1600	1500		1700																					3500	3500
Nitrogen, Nitrate	E353.2	µg/l	4400	3300	1700	1600	1500		1700																					3500	3500
Nitrogen, Nitrite	E354.1	µg/l	< 10	< 10	< 10	< 10	< 10		<10																					< 10	< 10
Sodium	6010C	µg/l	NT	NT	NT	NT	NT		NT																					NT	NT
Sulfate	E375.4	µg/l	105000	67800	38900	27500	30900		21600																					45800	45500
Surfactants	E425.1	µg/l	< 100	< 100	< 100	< 100	< 100		<100																					< 100	< 100
Total Organic Carbon	E415.1	µg/l	4600	1700	1000	<5000	< 1000		<1000																					< 1000	< 1000

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	GEO-6 (cont.)		MW-1					MW101					MW102								MW103						MW104					
		Sample Name:	GEO6	MW901 (FD)	MW-1	MW-1	MW-1	MW-1	MW1	MW-101	MW101	MW101	MW101	MW900	MW-102	MW102	MW-102	MW102	MW102	MW102	MW102	MW102	MW-103	MW103	MW103	MW-103	MW103	MW103	MW-104	MW104	MW104	MW104	MW104	MW104
		Well Screen Interval (ft bgs):	5 to 20	5 to 20	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	5 to 15	5 to 15	6 to 16	5 to 15	5 to 15	5 to 15
		Sample Date:	4/16/07	4/16/07	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	5/24/06	10/5/06	1/17/07	4/13/07	4/13/07	5/24/06	10/5/06	1/16/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	5/24/06	8/7/06	10/5/06	1/16/07	1/18/07	4/13/07	5/23/06	10/5/06	1/16/07	4/13/07	7/19/07	
		Collected By:	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 10	< 5.0	< 5.000	< 40000	40.0	36.1	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Benzene			< 1.0	< 0.50	< 5.00	< 2000	2.0	< 0.50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	0.60	< 0.50	< 0.50	NT
Bromodichloromethane			< 2.0	< 1.0	< 5.00	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
2-Butanone (MEK)			< 10	< 5.0	< 5.000	< 4000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Carbon disulfide			< 10	< 5.0	< 5.000	< 10000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Carbon tetrachloride			< 2.0	< 1.0	< 5.00	< 2000	19.0	22.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 2.0	< 1.0	< 5.00	< 2000	1.1	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Chloroethane			< 4.0	< 2.0	< 10000	< 4000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	2.7	10.3	6.1	4.7	6.9	
Chloroform			< 2.0	< 1.0	< 7500	< 2000	3.7	1.6	< 500	1.8	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.65 J	0.62 J	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Chloromethane			< 4.0	< 2.0	< 25000	< 4000	< 2.0	14.6	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT
1,4-Dichlorobenzene			< 2.0	< 1.0	< 25000	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
1,1-Dichloroethane			0.92 J	1.1	< 7500	< 2000	59.8	59.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	0.88 J	< 1.0	< 1.0	0.42 J	2.1	4.1	0.51 J	27.2	3.7	13.0	11.5	10.1	7.9	33.0	98.9	57.1	46.8	68.3	
1,2-Dichloroethane			< 2.0	< 1.0	< 5.00	< 2000	4.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	3.9 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			2.8	3.8	< 5.00	< 2000	11500	1260	2290	8.7	21.1	14.1	< 1.0	4.6 G	6.3	50.2	30	< 1.0	23.6	39.7	51.8	22.2 C+	13.4	2.0	6.5	4.3	4.3	8.0	3.3	9.4	2.9	10	2.6	
cis-1,2-Dichloroethylene			5.3	6.3	< 5.00	< 2000	24.3	7.7	< 500	< 1.0	< 1.0	1.3	< 1.0	2.1 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	3.0	2.5	< 1.0	< 1.0	< 5.0	198	435	244	250	194	
trans-1,2-Dichloroethylene			< 2.0	< 1.0	< 7500	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	2.2	9.3	6.2	3.6	2.5	
1,2-Dichloropropane			< 4.0	< 2.0	< 18000	< 2000	4.5	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT
1,4-Dioxane			< 5.0	< 25	NT	NT	< 25 R	< 25	< 13000	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25 R	< 25	< 25	NT	< 50	< 25	< 25	< 25	< 25	< 25 R	< 25	< 25	< 130	< 25	< 25 R	< 25	< 25	NT	
Ethylbenzene			< 2.0	< 1.0	< 5.00	< 2000	2.8	4.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	
2-Hexanone			< 10	< 5.0	< 5.000	< 20000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	NT	
4-Isopropyltoluene			< 10	< 5.0	< 5.00	< 2000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	NT	
Methyl tert-butyl ether			0.80 J	0.81 J	< 10000	< 2000	< 1.0 J+	< 1.0	< 500	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	4.5 J+	2.7	< 1.0	NT	17.3	24.2	1.7 C+	< 1.0	< 1.0	0.65 J J+	< 1.0	< 1.0	< 5.0	< 1.0	10.0 J+	1.0	0.93 J J+	NT	
Methylene chloride			2.5 J	< 2.0	< 5.000	< 20000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	4.3	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	NT	
Naphthalene			< 10	< 5.0	< 5.000	< 2000	< 5.0	2.4 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	NT	
Tert-amyl methyl ether			< 4.0	< 2.0	NT	NT	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	NT	
1,1,1,2-Tetrachloroethane			< 10	< 5.0	< 5.00	< 2000	38.1	22.8	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	NT	
Tetrachloroethylene (PCE)			618	497	52000	24200	34400	74900	49600	163	171	192	94.0	90.7	200	898	692	20.3	524	685	606	438 C+	2600	592	1510	1200 F+	1250 F-	1510	60.4	160	29.3	39.6	31.2	
Tetrahydrofuran			< 20	< 10	NT	NT	NT	< 10	< 5000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	NT	
Toluene			< 2.0	< 1.0	< 7500	< 2000	19.6	15.3	< 500	< 1.0	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	
1,1,1-Trichloroethane (TCA)			21.2	26.8	290000	112000	255000	135000	151000	110	146	131	50.5 J+	43.0 J+	< 1.0	65.7 J+	32.6	< 1.0	26.3	69.8	121	21.9 C+	34.0	4.4	14.4 J+	17.6	21.0	< 5.0	21.0	138 J+	23.2	5.6 J+	28.0	
1,1,2-Trichloroethane			< 2.0	< 1.0	< 7500	< 2000	85.8	16.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Trichloroethylene (TCE)			55.5	70.5	220000	128000	175000	120000	103000	50.5	30.2	38.4	47.2	45.7	15.6	89.1	57.0	2.0	46.1	61.0	65.3	35.6 C+	109	24.0	60.4	37.0	38.0	58.7	63.4	110	49.1	51.4	40.4	
Vinyl chloride			< 2.0	< 1.0	< 10000	< 2000	< 1.0	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	23.7	36.4	47.4	40.4	38.2	
m,p-Xylene			< 2.0	< 1.0	< 5.00	< 4000	4.8	5.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
o-Xylene			< 2.0	< 1.0	< 5.00	< 2000	9.2	13.8	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Total Xylene			< 2.0	< 1.0	ND	ND	14.0	19.7	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																											< 10							
Iron																											< 100							
Manganese																											NT							
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																									< 10							
Ethane	8015	µg/l																									< 10							
Ethylene	8015	µg/l																									< 10							
Alkalinity	E310.1	µg/l																									53500							
Chloride	E325.3	µg/l																									675000							
Iron, Ferrous	3500FE B	µg/l																									NT							
Nitrate & Nitrite as N	E353.2	µg/l																									8900							
Nitrogen, Nitrate	E353.2	µg/l																									8900							
Nitrogen, Nitrite	E354.1	µg/l																									16							
Sodium	6010C	µg/l																									NT							
Sulfate	E375.4	µg/l																									65700							
Surfactants	E425.1	µg/l																									< 100							
Total Organic Carbon	E415.1	µg/l																									1700							

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW104 (cont.)																	MW105														
Sample Name:			MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW-105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Well Screen Interval (ft bgs):			5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
Sample Date:			10/15/07	1/11/08	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/28/17	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																			NT															
Acetone	8260	µg/l	< 5.0	< 5.0	4.0 J	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	9.0	4.8	< 10	< 10	< 10	< 10		<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+
Benzene			0.43 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		<0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			5.6	2.3	< 2.0	3.9	5.9	< 2.0	< 2.0	2.8	4.2	< 2.0	< 2.0	2.6	1.9 J	< 2.0	< 2.0	< 2.0		<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			86.6	38.7	33.0	71.5	74.3	33.2	37.9	47.1	73.9	19.6	24.3	< 1.0	28.4	27.1	9.7	38.1		21.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			4.5	1.7	1.8	5.1	2.4	2.6	2.1	2.2	3.6	1.9	6.1	1.1	1.9	0.95 J	0.40 J	1.40		0.64 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			279	148	145	203	192 F-	189	236 F-	212	334	112	154	67.3	93.6	95.2	49.8	77.3		83.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			4.1	3.5	2.0	3.2	2.7	2.4	3.0	2.6	2.6	1.1	6.4	< 1.0	3.1	2.3	0.64 J	1.1		1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 F- K-	< 50	< 25 K-	< 25	< 25		<130	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			7.2	1.1	0.72 J	3.9	2.4	0.63 J	< 1.0	0.98 J	1.8	< 1.0	< 1.0	0.90 J	< 1.0	< 1.0	< 1.0	0.61 J		<1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<1.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			49.3	12.1	22.4	16.8	22.8	22.6	19.3	22.0	16.9	14	14.8	11.9	9.7	10.1	10.7	6.5		15.1	7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10		<10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			89.8	12.5	10.8	42.9	26.1	13.3	11.8 F+	19.2	24.3 J+	4.4	5.1	11.4	4.3	5.1	2.8	8.6		4.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	27.0	34.9	37.1	38.2	44.8	53.7 F+	44.4	43.7	24.3	26.4	13.9	14.1	16.3	15.6	12.4		21.3	< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7	1.7	1.8	1.7	2.3	1.6	0.78 J	1.1
Vinyl chloride			68.0	26.4	29.9	41.8 F+	42.6	50.1	66.5	57.0	107.0	34.9	53.9	39.3	28.9	51.7	11.8	16.1		9.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT									NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic												NT	NT	NT	NT	NT	NT	NT	NT																
Iron												2900 J+	11800	10700	15300	8970	NT	NT	NT																
Manganese												1510	3000	2590	2860	1570	154	2440	1150																
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																9890																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT									NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l										159	184	724	252	185	<10	20.2	29.9																
Ethane	8015	µg/l										1.77	2.0	5.4	3.6	3.2 J	<10	< 10	<10																
Ethylene	8015	µg/l										0.87	1.1	11.6	4.92	3.8 J	<10	2.3 J	<10																
Alkalinity	E310.1	µg/l										338000	373000	464000	413000	393000	298000	319000	429000																
Chloride	E325.3	µg/l										32500	189000	100000	247000	82500	74500	125000	33700																
Iron, Ferrous	3500FE B	µg/l										NT	NT	NT	NT	4800	<100	4600	1200																
Nitrate & Nitrite as N	E353.2	µg/l										120	320	200	280	150	390	< 110	<110																
Nitrogen, Nitrate	E353.2	µg/l										120	320	200	280	150	390	< 100	<100																
Nitrogen, Nitrite	E354.1	µg/l										< 10	< 10	< 10	< 10	< 10	<10	< 10	<10																
Sodium	6010C	µg/l										NT	NT	NT	NT	46400	NT	NT	NT																
Sulfate	E375.4	µg/l										41700	45300	29300	52400	104000	62800	232000	113000																
Surfactants	E425.1	µg/l										< 100	120	190	< 100	< 100	<100	110	<100																
Total Organic Carbon	E415.1	µg/l										5900	7400	9800	8500	7500	7000	8600	6600																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW105 (cont.)			MW106						MW107						MW108						MW109			MW110			MW111					
Sample Name:			MW105	MW105	MW105	MW106	MW106	MW106	MW106	MW106	MW106	MW107	MW107	MW107	MW107	MW107	MW107	MW108	MW108	MW108	MW108	MW108	MW108	MW109	MW109	MW109	MW110	MW110	MW110	MW111	MW111	MW111	MW111	MW111	MW111
Well Screen Interval (ft bgs):			19 to 29	19 to 29	19 to 29	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	4 to 14	4 to 14	4 to 14	4 to 14	4 to 14	4 to 14
Sample Date:			4/20/11	4/17/12	4/23/13	1/18/07	4/13/07	7/19/07	10/10/07	1/10/08	4/17/08	1/18/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	1/18/07	4/16/07	4/17/08	1/18/07	4/17/07	5/23/07	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 5.0	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	69.9	< 5.0	9.2	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 5.0	< 13	NT	< 25	< 0.50	< 1.0
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	7.7	< 5.0	1.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	< 2.0	< 100	< 2.0	< 4.0
Chloroform			< 1.0	< 1.0	< 1.0	1.1	1.2	NT	0.56 J	0.39 J	1.7	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	1.2	< 2.0
Chloromethane			< 2.0	< 2.0	2.5	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.6	4.3	0.52 J	< 1.0	2.1	3.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	NT	30.9	15.7 J	16.8	19.1 J	5.6	4.3 C+
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	0.43 J	< 50	< 1.0	< 2.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	4.4	6.3	3.4	3.9	4.1	1.5	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	17.6	< 25	10.5	< 50	4.1	3.7 C+
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	22.6	17.2 J	56.3	63.9	10.6	4.4 C+
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	1.5	< 50	< 1.0	< 2.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,4-Dioxane			< 25	< 25 K-	< 50	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 250	< 630	NT	< 1300	< 25	< 50
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0 K-	12.2	12.1	NT	252	78.0	4.9	< 1.0	< 1.0	NT	< 1.0	0.21 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	0.45 J	< 2.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	31.4 J	NT	< 100	< 2.0	< 4.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	2.2	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT	< 100	< 2.0	< 4.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT	< 250	< 5.0	< 10
Tetrachloroethylene (PCE)			< 1.0	< 1.0	0.53 J	1.0 F-	1.2	2.3	1.7	2.3	0.44 J	< 1.0 F-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	178 F-	28.5	17.4	0.89 J F-	0.93 J	NT	13700 F-	7370	6340	8350	3100	1160 C+
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 100	< 250	NT	< 500	< 10	< 20
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	110	0.40 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	15.3	1.5 J+	6.4	11.3	14.9	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.77 J	0.97 J	0.31 J	< 1.0	< 1.0	NT	142	56.5	89.1	84.1	41.3	17.6 C+
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
Trichloroethylene (TCE)			1.8	1.7	1.6	3.7	4.8	3.6	4.4	4.9	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.5	< 1.0	0.52 J	< 1.0	< 1.0	NT	150	84.4	120	125	42.1	19.9 C+
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0	< 50	< 1.0	< 2.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT	< 50	< 1.0	< 2.0
Metals (Total)	6010B	µg/l	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	< 10	NT	NT	NT	NT	NT	NT	NT	NT	2.9	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic						< 10						< 10						< 100									84000								
Iron						319						6160						NT									NT								
Manganese						NT						NT																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT	NT	NT	NT
Methane	8015	µg/l				< 10						4.13 J						0.18 J									< 10		NT						
Ethane	8015	µg/l				< 10						< 10						< 10									< 10		NT						
Ethylene	8015	µg/l				< 10						< 10						< 10									< 10		NT						
Alkalinity	E310.1	µg/l				83100						174000						71100									122000		NT						
Chloride	E325.3	µg/l				1870000						100000						235000									142000		1010000						
Iron, Ferrous	3500FE B	µg/l				NT						NT						NT									NT		NT						
Nitrate & Nitrite as N	E353.2	µg/l				12900						100						< 100									2400		NT						
Nitrogen, Nitrate	E353.2	µg/l				12800						< 110						< 110									2300		NT						
Nitrogen, Nitrite	E354.1	µg/l				83						< 10						< 10									54		NT						
Sodium	6010C	µg/l				NT						NT						NT									NT		NT						
Sulfate	E375.4	µg/l				86800						33400						28100									47700		NT						
Surfactants	E425.1	µg/l				< 100						150						< 100									< 100		NT						
Total Organic Carbon	E415.1	µg/l				1300						12200						1300									5700		NT						

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A													MW112A (cont.)														
Sample Name:			MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10	4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13	4/24/13	11/18/13	6/11/14
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20	< 10 K-	< 10 K-
Benzene			< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0
Chloroform			0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
1,1-Dichloroethane			27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0	73.5	18.3
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
1,1-Dichloroethylene			19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0	86.5	38.5
cis-1,2-Dichloroethylene			< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145	112	209	150
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50	< 50	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0 K-	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0
Methyl tert-butyl ether			10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1	64.6	4.6
Methylene chloride			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 1.0
Tetrachloroethylene (PCE)			261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339	581	371	266
Tetrahydrofuran			< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20	< 10	< 10
Toluene			0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5	8.0	1.5
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Trichloroethylene (TCE)			34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0	140	146	82.0
Vinyl chloride			0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	4.4	0.90 J	< 1.0
m,p-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT		NT	NT		NT	NT		NT	
Arsenic																					NT			NT			NT			NT		NT
Iron																					< 0.10 J+			NT			< 100			14200		NT
Manganese																					875			1570			954			1610		1470
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT		NT	NT		NT	NT		NT	
Methane	8015	µg/l																			0.18 J B			< 0.30			0.66			0.10 J		< 10
Ethane	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10		< 10
Ethylene	8015	µg/l																			< 0.10			< 0.10			< 0.10			< 0.10		< 10
Alkalinity	E310.1	µg/l																			233000			252000			245000			278000		285000
Chloride	E325.3	µg/l																			810000			915000			655000			857000		815000
Iron, Ferrous	3500FE B	µg/l																			NT			NT			NT			NT		< 100
Nitrate & Nitrite as N	E353.2	µg/l																			4700			3500			2600			1300		650
Nitrogen, Nitrate	E353.2	µg/l																			4700			3500			2600			1300		650
Nitrogen, Nitrite	E354.1	µg/l																			11			< 10			< 10			< 10		< 10
Sodium	6010C	µg/l																			NT			NT			NT			NT		NT
Sulfate	E375.4	µg/l																			57100			52200			66100			68000		90900
Surfactants	E425.1	µg/l																			< 100			< 100			< 100			< 100		< 100
Total Organic Carbon	E415.1	µg/l																			1200			1100			< 1000			1500		< 1000

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW112A (cont.)								MW113										MW114						MW115						MW116		
Sample Name:			MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW901 (FD)	MW112A	MW113	MW113	MW113	MW900 (FD)	MW113	MW900 (FD)	MW113	MW900 (FD)	MW113	MW900 (FD)	MW114	MW114	MW114	MW114	MW114	MW114	MW115	MW115	MW115 R	MW115	MW115	MW115 R	MW116	MW116	MW116
Well Screen Interval (ft bgs):			4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	7 to 17	7 to 17	7 to 17	7 to 17	7 to 17	7 to 17	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	5 to 15	5 to 15	5 to 15
Sample Date:			11/18/14	4/17/15	4/17/15	4/28/16	11/21/16	4/18/17	4/18/2017	11/10/2017	2/20/07	4/12/07	7/18/07	7/18/07	10/10/07	10/10/07	1/11/08	1/11/08	4/15/08	4/15/08	2/20/07	4/13/07	7/18/07	10/10/07	1/11/08	4/17/08	3/23/07	4/13/07	7/18/07	10/10/07	1/9/08	4/17/08	3/23/07	4/16/07	7/18/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	< 5.0	3.8 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	2.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	< 0.50	< 0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	0.24 J	< 0.50	NT
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10	< 20	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	< 5.0	0.66 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Chloroethane			< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.4
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Chloromethane			< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<1.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
1,1-Dichloroethane			64.1 G K-	23.2	25.2	14.1	77	34.1	30.1	88.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	135	4.4	97.3
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			109 K+	39	42.9	21.5	132	47.7	43.0	92.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	0.33 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	107	2.7	33.8
cis-1,2-Dichloroethylene			321	71.1	84.1	108	230	78.2	71.8	155	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	103	21.7	415
trans-1,2-Dichloroethylene			< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	< 1.0	4.3
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT
1,4-Dioxane			< 25	< 25	< 25	< 25	< 50	<130	<130	< 250	< 25	< 25	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25 J+	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	<5.0	< 10	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Methyl tert-butyl ether			47.3 K+	11.9	13.9	3.9	53.9	11.6	11.4	56.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	12.3	0.40 J	NT
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	< 10	< 5.0	1.2 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT
Tetrachloroethylene (PCE)			398	303	300	258	508	435	404	908	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1180	32.2	167
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	< 10	< 10	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	30.6	13.8	NT
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	0.44 J	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.34 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
1,1,1-Trichloroethane (TCA)			3.6	1.3	1.4	1.7	6.5	4.1	3.6	11.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	21.6	0.67 J	10.6
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			117	71	73	61.3	220.0	118.0	107	247	< 1.0	0.82 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	358	19.4	72.7
Vinyl chloride			0.77 J G K-	< 1.0	< 1.0	< 1.0	1.3	<1.0	<1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	14.1	3.2	185
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT
Metals (Total)	6010B	µg/l	NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic				NT		NT		NT																										
Iron				NT		NT		NT																										
Manganese				909		1530		627																										
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT		NT		NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l		< 10		< 10		<10																										
Ethane	8015	µg/l		< 10		< 10		<10																										
Ethylene	8015	µg/l		< 10		< 10		<10																										
Alkalinity	E310.1	µg/l		266000		332000		339000																										
Chloride	E325.3	µg/l		700000		700000		439000																										
Iron, Ferrous	3500FE B	µg/l		< 100		< 100		<100																										
Nitrate & Nitrite as N	E353.2	µg/l		1200		490		620																										
Nitrogen, Nitrate	E353.2	µg/l		1200		490		620																										
Nitrogen, Nitrite	E354.1	µg/l		< 10		< 10		<10																										
Sodium	6010C	µg/l		NT		NT		NT																										
Sulfate	E375.4	µg/l		63100		117000		71000																										
Surfactants	E425.1	µg/l		< 100		< 100		<100																										
Total Organic Carbon	E415.1	µg/l		< 5000		< 1000		<1000																										

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116 (cont.)																													
Sample Name:			MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW116	MW116	MW116	MW116	MW116	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW901 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)
Well Screen Interval (ft bgs):			5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
Sample Date:			7/18/07	10/12/07	10/12/07	1/11/08	1/11/08	4/15/08	4/15/08	7/16/08	10/21/08	1/14/09	4/15/09	7/14/09	10/14/09	4/13/10	4/13/10	4/21/11	4/21/11	4/17/12	4/17/12	4/24/13	4/24/13	5/1/14	5/1/14	4/2/15	4/2/15	4/29/16	4/29/16	4/17/17	4/17/17		
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	<10	<10
Benzene			NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	<0.50	<0.50
Bromodichloromethane			NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
2-Butanone (MEK)			NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<10	<10
Carbon disulfide			NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
Chlorobenzene			NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
Chloroethane			2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0
Chloroform			NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
Chloromethane			NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0
1,4-Dichlorobenzene			NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
1,1-Dichloroethane			96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9	38.3	45.0	49.4	49.8
1,2-Dichloroethane			< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
1,1-Dichloroethylene			34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8	27.7	36.4	35.1	34.4
cis-1,2-Dichloroethylene			431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114	111	50.6	59	67.5	67.2
trans-1,2-Dichloroethylene			4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	<2.0	< 2.0	< 1.0	0.42 J	0.45 J
1,2-Dichloropropane			NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0	<1.0
1,4-Dioxane			NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25	< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	<130	<130
Ethylbenzene			NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
2-Hexanone			NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0	<5.0
4-Isopropyltoluene			NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0	<2.0
Methyl tert-butyl ether			NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9	< 2.0	0.79 J	1.6	1.6
Methylene chloride			NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0	<2.0
Naphthalene			NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0	<5.0
Tert-amyl methyl ether			NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	<1.0	<1.0
Tetrachloroethylene (PCE)			168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726	695	450	436	482	456
Tetrahydrofuran			NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20	<20	< 10	<10	<10
Toluene			NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6	3.8	4.4	3.8	3.7
1,1,2-Trichloroethane			< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
Trichloroethylene (TCE)			73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188	183	113	139	131	129
Vinyl chloride			182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8	< 2.0	< 1.0	1.6	1.4
m,p-Xylene			NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
o-Xylene			NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
Total Xylene			NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																
Iron																																
Manganese																																
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																														
Ethane	8015	µg/l																														
Ethylene	8015	µg/l																														
Alkalinity	E310.1	µg/l																														
Chloride	E325.3	µg/l																														
Iron, Ferrous	3500FE B	µg/l																														
Nitrate & Nitrite as N	E353.2	µg/l																														
Nitrogen, Nitrate	E353.2	µg/l																														
Nitrogen, Nitrite	E354.1	µg/l																														
Sodium	6010C	µg/l																														
Sulfate	E375.4	µg/l																														
Surfactants	E425.1	µg/l																														
Total Organic Carbon	E415.1	µg/l																														

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117D																		MW117S										
Sample Name:			MW117D 60 to 70 7/19/07 GEI	MW117D 60 to 70 10/11/07 GEI	MW117D 60 to 70 1/15/08 GEI	MW117D 60 to 70 4/16/08 GEI	MW117D 60 to 70 7/16/08 GEI	MW117D 60 to 70 10/21/08 GEI	MW117D 60 to 70 1/13/09 GEI	MW117D 60 to 70 4/14/09 GEI	MW117D 60 to 70 7/15/09 GEI	MW117D 60 to 70 10/14/09 GEI	MW117D 60 to 70 4/13/10 GEI	MW117D 60 to 70 4/20/11 GEI	MW117D 60 to 70 4/16/12 GEI	MW117D 60 to 70 4/24/13 GEI	MW117D 60 to 70 5/1/14 GEI	MW117D 60 to 70 4/2/15 GEI	MW117D 60 to 70 4/28/16 GEI	MW117D 60 to 70 4/17/17 GEI	MW117S 5 to 20 7/18/07 GEI	MW117S 5 to 20 10/15/07 GEI	MW117S 5 to 20 1/11/08 GEI	MW117S 5 to 20 4/16/08 GEI	MW117S 5 to 20 7/16/08 GEI	MW117S 5 to 20 10/21/08 GEI	MW117S 5 to 20 1/13/09 GEI	MW117S 5 to 20 4/14/09 GEI	MW117S 5 to 20 7/15/09 GEI	MW117S 5 to 20 10/14/09 GEI	MW117S 5 to 20 4/13/10 GEI
Well Screen Interval (ft bgs):																															
Sample Date:																															
Collected By:																															
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			NT	< 5.0	< 5.0	6.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	0.43 J	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<130	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25
Ethylbenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			NT	1.6	2.3	1.5	< 1.0	1.5	0.96 J	0.86 J	1.3	1.5	1.2	< 1.0	< 1.0	6.8	< 1.0	< 1.0	0.66 J	1.3	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			NT	< 5.0	4.9 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10
Toluene			NT	0.98 J	< 1.0	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117S (cont.)							MW117T																MW118D						
Sample Name:			MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80
Sample Date:			4/21/11	4/16/12	4/24/13	5/1/14	4/2/15	4/27/16	4/17/2017	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/16/09	4/13/10	4/21/11	4/16/12	4/23/13	5/1/14	4/2/15	4/27/2016	4/17/2017	7/20/07	8/30/07	10/11/07	1/16/08	4/16/08	7/16/08	10/21/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	NT	NT	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	NT	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	20.3	21.4	31.2	31.7	33.3	34.3	22.8
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.96 J	< 1.0	
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 50	< 25	< 25	< 25	<130	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	<130	NT	NT	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	NT	3.4	9.8	4.8	1.7	2.8	1.9	4.1	1.5	7.0	1.6	1.4	< 1.0	< 1.0 K-	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	0.40 J	< 1.0	0.40 J	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	7.0	8.4	8.2	6.1	5.7	7.1	2.1
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	NT	NT	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	0.62 J	< 1.0	0.27 J	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	1.2	3.9	1.8	0.94 J	1.0	1.9	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																	
Iron																																	
Manganese																																	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																															
Ethane	8015	µg/l																															
Ethylene	8015	µg/l																															
Alkalinity	E310.1	µg/l																															
Chloride	E325.3	µg/l																															
Iron, Ferrous	3500FE B	µg/l																															
Nitrate & Nitrite as N	E353.2	µg/l																															
Nitrogen, Nitrate	E353.2	µg/l																															
Nitrogen, Nitrite	E354.1	µg/l																															
Sodium	6010C	µg/l																															
Sulfate	E375.4	µg/l																															
Surfactants	E425.1	µg/l																															
Total Organic Carbon	E415.1	µg/l																															

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	MW118D (cont.)																			MW118S												
		Sample Name:	MW118D	MW118D	MW118D	MW118D	MW901 (FD)	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118D	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S
		Well Screen Interval (ft bgs):	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
		Sample Date:	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/09	7/15/09	10/14/09	4/12/10	4/20/11
		Collected By:	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	< 10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1	1.1	3.4	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9	37.7	34.8	27.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J	0.78 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8	8.6	7.9	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J	0.68 J	< 1.0 K+	0.62 J	2.2	2.9	0.81 J	0.55 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25	< 25	< 50	<130	< 130	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	21.9
Methyl tert-butyl ether			< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3	0.81 J	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8	6.5	5.8	2.7	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4	3.3	2.6	1.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1	0.93 J	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																		
Iron																																		
Manganese																																		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																
Ethane	8015	µg/l																																
Ethylene	8015	µg/l																																
Alkalinity	E310.1	µg/l																																
Chloride	E325.3	µg/l																																
Iron, Ferrous	3500FE B	µg/l																																
Nitrate & Nitrite as N	E353.2	µg/l																																
Nitrogen, Nitrate	E353.2	µg/l																																
Nitrogen, Nitrite	E354.1	µg/l																																
Sodium	6010C	µg/l																																
Sulfate	E375.4	µg/l																																
Surfactants	E425.1	µg/l																																
Total Organic Carbon	E415.1	µg/l																																

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118S (cont.)					MW118T								MW118T (cont.)											MW119S			
Sample Name:			MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW119S	MW119S	MW119S	MW119S
Well Screen Interval (ft bgs):			3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09	7/14/09	10/15/09	4/12/10	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	8/22/07	10/12/07	1/15/08	4/16/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																												
Volatile Organic Compounds (VOCs)																														
Acetone	8260	µg/l	< 10	< 10	< 10	< 10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	<0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 J+
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8	35.9	28.8	26.9	28.4	31.3	31.3	26.7	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0 J+	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	< 1.0 J+	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 50	< 25	< 25	< 25	<130	NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	< 25 J+	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	2.9 J	6.0	< 5.0	10.3	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	<5.0	NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	5.2 J+	2.0	2.1	0.83 J
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	< 1.0 J+	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	<10	NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10 J+	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																														
Iron																														
Manganese																														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																														
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																												
Ethane	8015	µg/l																												
Ethylene	8015	µg/l																												
Alkalinity	E310.1	µg/l																												
Chloride	E325.3	µg/l																												
Iron, Ferrous	3500FE B	µg/l																												
Nitrate & Nitrite as N	E353.2	µg/l																												
Nitrogen, Nitrate	E353.2	µg/l																												
Nitrogen, Nitrite	E354.1	µg/l																												
Sodium	6010C	µg/l																												
Sulfate	E375.4	µg/l																												
Surfactants	E425.1	µg/l																												
Total Organic Carbon	E415.1	µg/l																												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119S (cont.)														MW119T													
Sample Name:			MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119S	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47
Sample Date:			7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	8/22/07	10/12/07	1/16/08	4/16/08	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																												
Volatile Organic Compounds (VOCs)																														
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	9.2 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	10.4 J+	11.0	10.9	10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2	9.4	6.4	5.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	2.0 J+	6.4	6.0	6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4	7.0	4.4	4.2
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	0.54 J J+	1.2	1.1	1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0	< 1.0	0.95 J	0.80 J
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	4.1 J+	0.66 J	0.64 J	0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	9.1 K-
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	94.3 J+	105	85.0	86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4	74.6	75.1	68.5
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	0.69 J	0.52 J	2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	25.9 J+	29.6	26.7	26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1	23.2	21.0	21.3
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																														
Iron																														
Manganese																														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																														
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																												
Ethane	8015	µg/l																												
Ethylene	8015	µg/l																												
Alkalinity	E310.1	µg/l																												
Chloride	E325.3	µg/l																												
Iron, Ferrous	3500FE B	µg/l																												
Nitrate & Nitrite as N	E353.2	µg/l																												
Nitrogen, Nitrate	E353.2	µg/l																												
Nitrogen, Nitrite	E354.1	µg/l																												
Sodium	6010C	µg/l																												
Sulfate	E375.4	µg/l																												
Surfactants	E425.1	µg/l																												
Total Organic Carbon	E415.1	µg/l																												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119T (cont.)				MW120D																MW120S					
Sample Name:			MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S	MW1120S	MW120S	MW120S
Well Screen Interval (ft bgs):			42 to 47	42 to 47	42 to 47	42 to 47	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			5/1/14	4/2/15	4/28/16	4/18/17	8/22/07	10/12/07	1/17/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	8/22/07	10/12/07	1/15/08	4/16/08	7/15/08	10/22/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																										
Volatile Organic Compounds (VOCs)																												
Acetone	8260	µg/l	< 10	< 10	< 10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	0.56 J J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	1.9 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	<1.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	<1.0	10.3 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			5.6	5.9	4.4	4.9	23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	1.1 J+	4.3	< 1.0	< 1.0	2.5	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			4.1	4.5	3.4	3.7	15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	0.70 J	0.65 J	0.82 J	0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25	<130	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			1.5	0.98 J	< 1.0	0.55 J	6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 1.0	< 1.0	< 1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			56.4	54.5	55.7	50.6	93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	< 1.0	< 1.0	0.97 J	< 1.0	< 1.0	0.71 J
Tetrahydrofuran			< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	1.1	< 1.0	0.25 J	10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			16.8	20.2	18.3	17.6	32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																														
Iron																														
Manganese																														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																														
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																												
Ethane	8015	µg/l																												
Ethylene	8015	µg/l																												
Alkalinity	E310.1	µg/l																												
Chloride	E325.3	µg/l																												
Iron, Ferrous	3500FE B	µg/l																												
Nitrate & Nitrite as N	E353.2	µg/l																												
Nitrogen, Nitrate	E353.2	µg/l																												
Nitrogen, Nitrite	E354.1	µg/l																												
Sodium	6010C	µg/l																												
Sulfate	E375.4	µg/l																												
Surfactants	E425.1	µg/l																												
Total Organic Carbon	E415.1	µg/l																												

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW120S (cont.)												MW121D														
Sample Name:			MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW900 (FD)	MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)	MW121D	MW121D
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:			1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	10/22/07	1/15/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	4/12/10
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																											
Volatile Organic Compounds (VOCs)																													
Acetone	8260	µg/l	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	0.36 J	< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	46.3	55.3	46.6	37.2	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9	54.8	52.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4	21.8	18.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106	253	279
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	3.0	3.8	2.4	2.1	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4	< 1.0	0.94 J
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	182	258	177	157	154	148 G	97.7 G	112	114	121	118	140	139	115	119
Tetrahydrofuran			< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	1.2	1.3	1.2	1.1	1.0	4.9	4.6	0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0	< 1.0	0.62 J
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	59.6	136	68.8	71.0	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5	146.0	96.3
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																													
Iron																													
Manganese																													
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																													
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																											
Ethane	8015	µg/l																											
Ethylene	8015	µg/l																											
Alkalinity	E310.1	µg/l																											
Chloride	E325.3	µg/l																											
Iron, Ferrous	3500FE B	µg/l																											
Nitrate & Nitrite as N	E353.2	µg/l																											
Nitrogen, Nitrate	E353.2	µg/l																											
Nitrogen, Nitrite	E354.1	µg/l																											
Sodium	6010C	µg/l																											
Sulfate	E375.4	µg/l																											
Surfactants	E425.1	µg/l																											
Total Organic Carbon	E415.1	µg/l																											

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW121D (cont.)													MW121S																
Sample Name:			MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S
Well Screen Interval (ft bgs):			32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			4/20/11	4/16/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/2016	11/21/2016	4/17/2017	11/8/2017	10/22/07	1/15/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	4/23/13	4/30/14	4/2/15	4/28/16	4/17/17
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10	< 10	< 10	< 10	<10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	<0.50
Bromodichloromethane			< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4	< 5.0	< 5.0	< 5.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethane			65.8	67.7	49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0	32.0	47.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1-Dichloroethylene			24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9	14.8	15.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
cis-1,2-Dichloroethylene			217	178	122	193	67.2	133	316	186	73.6	108	271	79.9	119	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
trans-1,2-Dichloroethylene			5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1	0.37 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	< 50	< 50	< 25 K-	< 25 K-	<25	<25	<25	< 50	< 130	< 130	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25 K-	< 25	< 25	<130
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0
Methyl tert-butyl ether			2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7	1.4	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			219	356	223	276	124	163	224	216	216	227	139	160	242	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Trichloroethylene (TCE)			233.0	342	207	342	115	236	432	266	148	262	176	159	310	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Vinyl chloride			7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3	6.6	10.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																	
Iron																																	
Manganese																																	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																															
Ethane	8015	µg/l																															
Ethylene	8015	µg/l																															
Alkalinity	E310.1	µg/l																															
Chloride	E325.3	µg/l																															
Iron, Ferrous	3500FE B	µg/l																															
Nitrate & Nitrite as N	E353.2	µg/l																															
Nitrogen, Nitrate	E353.2	µg/l																															
Nitrogen, Nitrite	E354.1	µg/l																															
Sodium	6010C	µg/l																															
Sulfate	E375.4	µg/l																															
Surfactants	E425.1	µg/l																															
Total Organic Carbon	E415.1	µg/l																															

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW122																						MW201			
Sample Name:			MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW201	MW201	MW201	MW201
Well Screen Interval (ft bgs):			4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	11 to 21	11 to 21	11 to 21	11 to 21
Sample Date:			1/30/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/15/09	10/14/09	4/12/10	10/27/10	4/20/11	11/16/11	4/17/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	7/19/07	10/12/07	1/11/08	4/15/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																											
Volatile Organic Compounds (VOCs)																													
Acetone	8260	µg/l	< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50	< 10	NT	< 5.0 J+	< 5.0	< 5.0
Benzene			< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5	< 0.50	NT	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50	< 10	NT	< 5.0 J+	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10	< 2.0	NT	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	0.47 J	0.40 J	0.24 J
Chloromethane			< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			19.3	30.4 C+	10.1	15.0	16.0	25.8	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9	14.8	< 1.0	0.66 J	< 1.0	0.23 J
1,2-Dichloroethane			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			4.0	9.0 C+	1.4	4.4	3.4	6.1	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7	3.9	4.7	4.9	5.2	3.0
cis-1,2-Dichloroethylene			60.6	70.7 C+	34.0	62.5	91.5	61.9	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2	50.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0	< 1.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 50	< 25	< 25 K-	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630	< 130	NT	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 2.0	NT	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			3.3	3.9 C+	1.9	5.6	2.5	3.2	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7	1.1	NT	75.8	240	0.26 J
Methylene chloride			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10	< 2.0	NT	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 10	< 2.0	NT	4.6	17.7	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	<2.0	<2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			477	691 C+	122	352 G	312	499 G	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910	579	5.1	19.6	25.8	18.0
Tetrahydrofuran			< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50	< 10	NT	< 10	< 10	< 10
Toluene			0.48 J	< 2.0	2.8	3.7	0.64 J	2.4	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0	20.7	NT	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1.4	3.4 C+	0.63 J	5.1	1.1	1.7	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0	< 1.0	9.8	36.3	32.9	7.3
1,1,2-Trichloroethane			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			177	106 C+	27.0	56.9	59.6	91.7	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0	63.3	4.5	7.2	8.2	6.4
Vinyl chloride			0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 2.0	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																														
Iron																														
Manganese																														
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																														
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																												
Ethane	8015	µg/l																												
Ethylene	8015	µg/l																												
Alkalinity	E310.1	µg/l																												
Chloride	E325.3	µg/l																												
Iron, Ferrous	3500FE B	µg/l																												
Nitrate & Nitrite as N	E353.2	µg/l																												
Nitrogen, Nitrate	E353.2	µg/l																												
Nitrogen, Nitrite	E354.1	µg/l																												
Sodium	6010C	µg/l																												
Sulfate	E375.4	µg/l																												
Surfactants	E425.1	µg/l																												
Total Organic Carbon	E415.1	µg/l																												

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW202																		MW203		MW-3						
Sample Name:			MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW202	MW203	MW203	MW-3	MW-3	MW-3	MW-3	MW3	MW3	MW-3
Well Screen Interval (ft bgs):			10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	10.5 to 20.5	6 to 18	6 to 18	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Sample Date:			7/19/07	10/12/07	1/11/08	4/15/08	7/15/08	10/21/08	1/13/09	4/15/09	7/14/09	10/14/09	4/12/10	4/22/11	4/17/12	4/23/13	5/1/14	4/2/15	4/29/16	4/17/17	7/19/07	4/15/08	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	4/15/08	7/15/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																											
Volatile Organic Compounds (VOCs)																													
Acetone	8260	µg/l	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	9.7	<10	NT	< 250	< 2500	< 2000	< 5.0	< 5.0	< 130	< 5.0	< 5.0
Benzene			NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	NT	< 25	< 250	< 100	0.37 J	0.71	< 13	< 0.50	< 0.50
Bromodichloromethane			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
2-Butanone (MEK)			NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	NT	< 250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0
Carbon disulfide			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	< 250	< 2500	< 5.0	< 5.0	< 5.0	< 130	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
Chlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	0.52 J	< 25	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 2.0	< 100	< 5.0	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0
Chloroform			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 380	< 100	2.1	3.4	< 25	< 1.0	< 1.0
Chloromethane			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	< 100	< 1200	< 200	< 2.0	< 2.0	< 50	< 2.0	< 2.0
1,4-Dichlorobenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 1200	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
1,1-Dichloroethane			0.50 J	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0	< 1.0	3.1	5.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	22.2	13.0 J	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
1,1-Dichloroethylene			1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2	< 1.0	< 1.0	< 1.0	15.5	< 1.0	2.4	0.93 J	0.92 J	< 1.0	0.46 J	76.4	36.6 J	< 250	< 100	6.9	5.6	< 25	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	102	78.9	< 250	< 100	< 1.0	1.9	< 25	< 1.0	0.56 J
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	1.2	< 50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
1,2-Dichloropropane			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	NT	< 100	< 880	< 100	< 2.0	< 2.0	< 50	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 50	<25	<25	<130	NT	< 1300	NT	NT	< 25	< 25	< 630	< 25	< 25
Ethylbenzene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
2-Hexanone			NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	< 250	< 2500	< 1000	< 5.0	< 5.0	< 130	< 5.0	< 5.0
4-Isopropyltoluene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	NT	< 250	< 250	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0
Methyl tert-butyl ether			NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
Methylene chloride			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 100	< 2500	< 1000	< 2.0	< 2.0	71.5	< 2.0	< 2.0
Naphthalene			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	NT	< 250	< 1200	< 100	< 5.0	< 5.0	< 130	< 5.0	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	< 100	NT	NT	< 2.0	< 2.0	< 50	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	NT	< 250	< 100	1.9 J	4.4 J	< 130	< 5.0	< 5.0
Tetrachloroethylene (PCE)			17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5	52.6	61.8	84.9	86.5	20.6	37.0	31.4	28.1	40.8	20.0	15500	11500	16000	16200	22100	51900	6550	400	427
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	NT	< 50	NT	NT	< 10	< 10	< 250	< 10	< 10
Toluene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 380	< 100	0.62 J	< 1.0	< 25	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7	6.6	14.3 J+	16.8	18.6	2.8	5.2	6.9	7.4	7.1	3.5	1710	988	< 250	< 100	39.1	68.7	11.1 J	< 1.0	0.43 J
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	0.66 J	< 50	< 380	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
Trichloroethylene (TCE)			2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+	7.2	9.8	12.9	8.2	1.5	2.5	1.5	1.4	1.5	0.81 J	979	618	< 250	< 100	86.6	247	13.8 J	1.9	3.5
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 50	< 5.0	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
m,p-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 250	< 200	< 1.0	< 1.0	< 25	< 1.0	< 1.0
o-Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	< 250	< 100	< 1.0	< 1.0	< 25	< 1.0	< 1.0
Total Xylene			NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	NT	< 50	ND	ND	< 1.0	< 1.0	< 25	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																													
Iron																													
Manganese																													
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																													
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																											
Ethane	8015	µg/l																											
Ethylene	8015	µg/l																											
Alkalinity	E310.1	µg/l																											
Chloride	E325.3	µg/l																											
Iron, Ferrous	3500FE B	µg/l																											
Nitrate & Nitrite as N	E353.2	µg/l																											
Nitrogen, Nitrate	E353.2	µg/l																											
Nitrogen, Nitrite	E354.1	µg/l																											
Sodium	6010C	µg/l																											
Sulfate	E375.4	µg/l																											
Surfactants	E425.1	µg/l																											
Total Organic Carbon	E415.1	µg/l																											

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
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Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW-3 (cont.)					MW- CS1	SH-1	SH-3	SH-4	SH-MW1					SH-MW2								SH-MW3			
Sample Name:			MW-3	MW-3	MW-3	MW-3	MW-3	MW-CS1	SH-1	SH-3	SH-4	SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW3	SH-MW-3	SH-MW-3	SH-MW3
Well Screen Interval (ft bgs):			Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 14	8 to 13	11 to 16	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 24	10 to 24	10 to 24	10 to 24
Sample Date:			10/21/08	1/14/09	4/14/09	7/15/09	10/16/09	5/23/07	8/9/04	8/9/04	5/25/06	7/8/02	5/23/06	10/4/06	1/16/07	4/12/07	7/8/02	8/16/04	5/23/06	10/4/06	1/16/07	4/16/07	7/19/07	4/28/17	7/8/02	5/23/06	10/4/06	1/17/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GeoInsight	GEI	SHA	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GEI	GEI	GEI
Analyte	**Method**	**Units**																										
Volatile Organic Compounds (VOCs)																												
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 4000	< 2000	30.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 2000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	< 2500	< 5.0	< 5.0	< 500
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 200	< 100	< 0.50	< 250	< 0.50	0.61	< 0.50	0.33 J	< 25	< 100	< 0.50	< 0.50	< 0.50	< 1.0	NT	<0.50	< 250	< 0.50	< 0.50	< 50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 250	< 1.0	< 1.0	< 100
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 2000	< 1000	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	< 2500	< 5.0	< 5.0	< 500
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.54 J	< 1000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	< 2500	< 5.0	< 5.0	< 500
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	< 250	< 1.0	< 1.0	< 100
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	0.52 J	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 250	< 1.0	< 1.0	< 100
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 200	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<1.0	< 5.0	< 2.0	< 2.0	< 200
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	13.3	< 380	2.1	4.6	1.7	3.4	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 380	0.88 J	0.81 J	< 100
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 1200	< 2.0	< 2.0	< 2.0	< 2.0	< 120	< 200	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	< 1200	< 2.0	< 2.0	< 200
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 1200	< 1.0	< 1.0	< 1.0	< 1.0	< 120	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 1200	< 1.0	< 1.0	< 100
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	15.9	< 380	11.4	12.0	8.5	12.7	< 38	< 100	1.0	20.9	5.7	< 2.0	12.4	<1.0	< 380	21.6	36.5	< 100
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	103	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	< 250	< 1.0	< 1.0	< 100
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	556 E	< 250	11.7	19.3	9.0	24.4	< 25	< 100	10.1	45.0	9.8	2.1	23.8	0.65 J	< 250	91.0	84.4	< 100
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	0.43 J	2.3 J+	< 1.0	< 200	< 100	16.6	< 250	2.1	7.3	11.2	2.7	< 25	< 100	3.9	45.7	14.7	1.4 J	26.1	1.7	< 250	37.2	102	< 100
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	< 380	< 1.0	1.1	< 100
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 100	< 2.0	< 880	< 2.0	< 2.0	< 2.0	< 2.0	< 88	< 100	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	< 880	< 2.0	< 2.0	< 200
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	NT	NT	57700	NT	< 25	< 25 R	< 25	< 25	NT	NT	< 25	< 25 R	< 25	< 5.0	NT	<130	NT	< 25	< 25 R	< 2500
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 250	< 1.0	< 1.0	180
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 1000	5.3	NT	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	NT	< 5.0	< 5.0	< 500
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	< 250	< 5.0	< 5.0	< 500
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	66.4	< 200	< 100	< 1.0	< 5.0	< 1.0	0.71 J J+	< 1.0	0.74 J J+	< 5.0	< 100	< 1.0	8.7 J+	1.4	< 2.0	NT	<1.0	< 5.0	5.1	8.2 J+	< 100
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2000	< 1000	12.2	< 2500	< 2.0	< 2.0	< 2.0	< 2.0	< 250	< 1000	< 2.0	< 2.0	< 2.0	2.3 J	NT	<2.0	< 2500	< 2.0	< 2.0	< 200
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 200	< 5.0	< 5.0	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	< 1200	< 5.0	< 5.0	392 J
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	NT	NT	1.9 J	NT	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 4.0	NT	<2.0	NT	< 2.0	< 2.0	< 200
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	40.4	< 250	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 25	< 100	< 5.0	< 5.0	< 5.0 F+	< 10	NT	<1.0	< 250	< 5.0	< 5.0	< 500
Tetrachloroethylene (PCE)			606	176	141	280	391	< 1.0	49700	19500	7240	21000	16200	28300	31700 F+	48900	2000	7170	1730	7190	2880 F+	726	3320	365	26000	16900	28300	29700
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	NT	NT	< 10	NT	< 10	< 10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 20	NT	<10	NT	< 10	< 10	< 1000
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	1.8	< 380	0.61 J	0.47 J	< 1.0	0.36 J	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 380	< 1.0	< 1.0	< 100
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1150	2070	7610	< 250	34.5	69.7 J+	31.4	27.9 J+	660	1550	158	1330	360	44.1	539	6.8	1200	989	1680	806
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	172	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	< 380	< 1.0	< 1.0	< 100
Trichloroethylene (TCE)			4.2	1.3	1.3	2.7	3.6	< 1.0	906	1440	7580	< 5.0	141	317	141	159	190	572	92.8	486	171	26.5	354	13.2	870	482	1030	709
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.55 J	< 5.0	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	< 5.0	< 1.0	< 1.0	< 100
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 400	< 200	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 200	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 250	< 1.0	< 1.0	484
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	< 250	< 1.0	< 1.0	< 100
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	ND	< 1.0	< 1.0	543
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Arsenic																												< 10
Iron																												255
Manganese																												NT
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																												
Others			NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l						NT																				< 10
Ethane	8015	µg/l						NT																				< 10
Ethylene	8015	µg/l						NT																				< 10
Alkalinity	E310.1	µg/l						NT																				208000
Chloride	E325.3	µg/l						275000																				362000
Iron, Ferrous	3500FE B	µg/l						NT																				NT
Nitrate & Nitrite as N	E353.2	µg/l						NT																				1900
Nitrogen, Nitrate	E353.2	µg/l						NT																				1900
Nitrogen, Nitrite	E354.1	µg/l						NT																				30
Sodium	6010C	µg/l						NT																				NT
Sulfate	E375.4	µg/l						NT																				62600
Surfactants	E425.1	µg/l						NT																				< 100
Total Organic Carbon	E415.1	µg/l						NT																				< 1000

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location:			SH-MW3 (cont.)								COBBLE-IR-1
Sample Name:			SHMW3 10 to 24 4/12/07 GEI	SHMW3 10 to 24 4/15/08 GEI	SHMW3 10 to 24 4/13/10 GEI	SHMW3 10 to 24 4/21/11 GEI	SH-MW3 10 to 24 4/16/12 GEI	SH-MW3 10 to 24 4/23/13 GEI	SH-MW3 10 to 24 4/30/14 GEI	SH-MW3 10 to 24 4/2/15 GEI	COBBLE-IR-1 Unknown 6/25/07 GEI
Well Screen Interval (ft bgs):											
Sample Date:											
Collected By:											
Analyte	**Method**	**Units**									
Volatile Organic Compounds (VOCs)											
Acetone	8260	µg/l	< 5.0	< 500	< 5.0	< 500	< 250	< 500	< 10	< 500	5.8
Benzene			< 0.50	< 500	< 0.50	< 50	< 25	< 25	< 0.50	< 25	< 0.50
Bromodichloromethane			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	0.32 J
2-Butanone (MEK)			< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon disulfide			< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon tetrachloride			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chlorobenzene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chloroethane			< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
Chloroform			1.1	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	5.6
Chloromethane			< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dichlorobenzene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethane			24.5	< 100	19.5	< 100	< 50	< 50	12.6	24.0 J	< 1.0
1,2-Dichloroethane			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethylene			91.3	< 100	14.2	< 100	< 50	< 50	12.5	<50	< 1.0
cis-1,2-Dichloroethylene			39.8	34.5 J	19.8	< 100	< 50	< 50	40.1	27.7 J	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,2-Dichloropropane			< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dioxane			< 25	< 2500	< 25	< 2500	< 1300	< 2600	< 25 K-	<1300	< 25
Ethylbenzene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
2-Hexanone			< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
4-Isopropyltoluene			< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Methyl tert-butyl ether			2.4 J+	< 100	0.83 J	< 100	< 50	< 50 K-	< 1.0	< 50	< 1.0
Methylene chloride			< 2.0	< 200	< 2.0	450	< 100	< 100	< 2.0	< 100	< 2.0
Naphthalene			< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Tert-amyl methyl ether			< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	<50	< 5.0
Tetrachloroethylene (PCE)			34000	15200	20300	16900	7310	9650	14500	12800	< 1.0
Tetrahydrofuran			< 10	< 1000	< 10	< 1000	< 500	< 500	< 10 G	< 500	< 10
Toluene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1,1-Trichloroethane (TCA)			621 E J+	119	19.8 J	< 100	83.0	< 50	48.0	49.9 J	< 1.0
1,1,2-Trichloroethane			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Trichloroethylene (TCE)			1030	306	383.0	342	152	157	231	218	< 1.0
Vinyl chloride			0.83 J	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
m,p-Xylene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
o-Xylene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Total Xylene			< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic											
Iron											
Manganese											
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron											
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l									
Ethane	8015	µg/l									
Ethylene	8015	µg/l									
Alkalinity	E310.1	µg/l									
Chloride	E325.3	µg/l									
Iron, Ferrous	3500FE B	µg/l									
Nitrate & Nitrite as N	E353.2	µg/l									
Nitrogen, Nitrate	E353.2	µg/l									
Nitrogen, Nitrite	E354.1	µg/l									
Sodium	6010C	µg/l									
Sulfate	E375.4	µg/l									
Surfactants	E425.1	µg/l									
Total Organic Carbon	E415.1	µg/l									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
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Qualifying Notes:

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C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
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G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-114		KE-115	
		Sample Name:	KE-114	KE-114	KE-115	KE-115
		Well Screen Interval (ft bgs):	5 to 30	5 to 30	5 to 30	5 to 30
		Sample Date:	9/27/12	2/6/14	9/27/12	2/6/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**				
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l				
Acetone			< 10	< 10	< 10	< 10
Benzene			< 1.0	< 1.0	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	1.8	1.0
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	1.4	2.4
Tetrachloroethylene (PCE)			< 1.0	1.1	< 1.0	< 1.0
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0
Toluene			< 1.0	< 2.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	1.2	< 1.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.

(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-116		KE-117	
		Sample Name:	KE-116	KE-116	KE-117	KE-117[(a)]
		Well Screen Interval (ft bgs):	5 to 30	5 to 30	5 to 20	5 to 20
		Sample Date:	9/27/12	2/6/14	9/27/12	2/6/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**				
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l				
Acetone			< 10	< 10	56	< 10
Benzene			< 1.0	< 1.0	< 5.0	3.8
Carbon disulfide			< 5.0	< 5.0	73	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0	< 5.0	12
1,1-Dichloroethylene			< 1.0	< 1.0	< 5.0	8.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 5.0	410
Ethylbenzene			< 1.0	< 1.0	< 5.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 5.0	< 1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 5.0	760
Tetrahydrofuran			< 2.0	< 2.0	< 10	< 2.0
Toluene			< 1.0	< 1.0	< 5.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 5.0	11
1,1,2-Trichloroethane			< 1.0	< 1.0	< 5.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 5.0	150
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 5.0	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 10	19
m,p-Xylene			< 2.0	< 2.0	< 10	< 2.0
o-Xylene			< 1.0	< 1.0	< 5.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.
(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:		MW-5R
		Sample Name:	KE-117	MW-5R
		Well Screen Interval (ft bgs):	5 to 20	5 to 30
		Sample Date:	4/9/14	2/6/14
		Collected By:	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**		
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l		
Acetone			< 20	< 10
Benzene			< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0
cis-1,2-Dichloroethylene			2.8	< 1.0
Ethylbenzene			< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0
Tetrachloroethylene (PCE)			4.3	< 1.0
Tetrahydrofuran			< 2.0	< 2.0
Toluene			< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0
Trichloroethylene (TCE)			1.2	< 1.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0
Vinyl chloride			< 2.0	< 2.0
m,p-Xylene			< 2.0	< 2.0
o-Xylene			< 2.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.

(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	WashSW[(b)]	KE-202D	KE-202S	KE-204
		Sample Name:	WashSW[(b)]	KE-202D	KE-202S	KE-204
		Well Screen Interval (ft bgs):	Vac-Ex	~25 to 35	5 to 20	15 to 25
		Sample Date:	2/6/14	4/8/14	4/8/14	4/14/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**				
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l				
Acetone			< 10	< 20	< 20	< 20
Benzene			< 1.0	< 1.0	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			4.4	< 1.0	< 1.0	3.4
1,1-Dichloroethylene			1.8	< 1.0	< 1.0	2.6
cis-1,2-Dichloroethylene			26	12	< 0.40	83
Ethylbenzene			7.2	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			2000	33	< 1.0	14000
Tetrahydrofuran			3.3	< 2.0	< 2.0	< 2.0
Toluene			2.8	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			13	< 1.0	< 1.0	16
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			38	5.0	< 1.0	81.0
1,2,4-Trimethylbenzene			1.1	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0
m,p-Xylene			37	< 2.0	< 2.0	< 2.0
o-Xylene			19	< 2.0	< 2.0	< 2.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.

(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-205	KE-206	KE-207	KE-208
		Sample Name:	KE-205	KE-206	KE-207	KE-208
		Well Screen Interval (ft bgs):	9.5 to 19.5	10 to 21	8 to 18	4 to 14
		Sample Date:	4/15/14	4/14/14	4/15/14	4/14/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**				
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l				
Acetone			< 20	< 20	< 20	< 20
Benzene			< 1.0	< 1.0	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	6.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	4.6	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	89	< 1.0	1.2
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			1.0	12000	2.5	73
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0
Toluene			< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	35.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	86.0	< 1.0	2.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene			< 2.0	< 2.0	< 2.0	< 2.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.

(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE209	KE-210
		Sample Name:	KE209	KE-210
		Well Screen Interval (ft bgs):	9 to 19	8.5 to 18.5
		Sample Date:	4/15/14	4/15/14
		Collected By:	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**		
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l		
Acetone			< 20	< 20
Benzene			< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	1000
1,1-Dichloroethylene			< 1.0	790
cis-1,2-Dichloroethylene			< 1.0	8.4
Ethylbenzene			< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	71
Tetrachloroethylene (PCE)			< 1.0	14000
Tetrahydrofuran			< 2.0	< 2.0
Toluene			< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	860
1,1,2-Trichloroethane			< 1.0	1.8
Trichloroethylene (TCE)			< 1.0	24000
1,2,4-Trimethylbenzene			< 1.0	< 1.0
Vinyl chloride			< 2.0	3.6
m,p-Xylene			< 2.0	< 2.0
o-Xylene			< 2.0	< 2.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.

(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-4. Chemical Testing Results - 31 - 33 Knowlton Street
Post-EPMM Installation Indoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	31-33 Knowlton Street							
		Sample Name:	31KNOW1		31KNOWB		31KNOW-1		31KNOW-B	
		Sample Date:	8/6/2007		8/6/2007		11/12/2007		11/12/2007	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 0.69 J	< 0.11 J	< 1.3	< 0.20	0.62 J	0.099 J
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethylene (TCE)		0.4	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. The samples collected in January 2009 (31-33KNOW-1A and 1B, and 31-33KNOW-B1 and B2) were field duplicates.
7. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for 1 week prior to collection of indoor air samples on February 2, 2016, November 9, 2016, March 16, 2017, and September 20, 2017.
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-4. Chemical Testing Results - 31 - 33 Knowlton Street
Post-EPMM Installation Indoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	31-33 Knowlton Street (continued)							
		Sample Name:	31-33KNOW-1		31-33KNOW-B		31-33KNOW-1		31-33KNOW-B	
		Sample Date:	2/6/2008		2/6/2008		7/14/2008		7/14/2008	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Tetrachloroethylene (PCE)		1.4	1.9	0.28	4.9	0.72	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethylene (TCE)		0.4	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. The samples collected in January 2009 (31-33KNOW-1A and 1B, and 31-33KNOW-B1 and B2) were field duplicates.
7. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for 1 week prior to collection of indoor air samples on February 2, 2016, November 9, 2016, March 16, 2017, and September 20, 2017.
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-4. Chemical Testing Results - 31 - 33 Knowlton Street
Post-EPMM Installation Indoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	31-33 Knowlton Street (continued)							
		Sample Name:	31-33KNOW-1A		31-33KNOW-1B		31-33KNOW-B1		31-33KNOW-B2	
		Sample Date:	1/19/09		1/19/09		1/19/09		1/19/09	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	0.62 J	0.099 J	0.59 J	0.094 J
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.17 J	1.1 J	0.16 J
Trichloroethylene (TCE)		0.4	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. The samples collected in January 2009 (31-33KNOW-1A and 1B, and 31-33KNOW-B1 and B2) were field duplicates.
7. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for 1 week prior to collection of indoor air samples on February 2, 2016, November 9, 2016, March 16, 2017, and September 20, 2017.
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-4. Chemical Testing Results - 31 - 33 Knowlton Street
Post-EPMM Installation Indoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	31-33 Knowlton Street (continued)							
		Sample Name:	31KNOW-1		31KNOW-B		3133KNOW-1		3133KNOW-B	
		Sample Date:	3/19/10		3/19/10		2/2/16		2/2/16	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	0.26 J	0.039 J	< 0.27	< 0.04
Trichloroethylene (TCE)		0.4	< 1.1	< 0.20	< 1.1	< 0.20	< 0.21	< 0.04	0.19 J	0.036 J

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. The samples collected in January 2009 (31-33KNOW-1A and 1B, and 31-33KNOW-B1 and B2) were field duplicates.
7. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for 1 week prior to collection of indoor air samples on February 2, 2016, November 9, 2016, March 16, 2017, and September 20, 2017.
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-4. Chemical Testing Results - 31 - 33 Knowlton Street
Post-EPMM Installation Indoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	31-33 Knowlton Street (Continued)							
		Sample Name:	31KNOW-1		31KNOW-B		31KNOW-1		31KNOW-B	
		Sample Date:	11/9/16		11/9/16		3/16/17		3/16/17	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	0.62	0.092	0.62	0.092	0.28	0.041	0.37	0.054
Trichloroethylene (TCE)		0.4	< 0.21	< 0.040	< 0.21	< 0.040	0.86	0.16	0.24	0.045

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. The samples collected in January 2009 (31-33KNOW-1A and 1B, and 31-33KNOW-B1 and B2) were field duplicates.
7. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for 1 week prior to collection of indoor air samples on February 2, 2016, November 9, 2016, March 16, 2017, and September 20, 2017.
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-4. Chemical Testing Results - 31 - 33 Knowlton Street
Post-EPMM Installation Indoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Sample Location:				
		Sample Name:	**31-33KNOW-FF**		**31-33KNOW-B**	
		Sample Date:	**9/20/17**		**9/20/17**	
		Units:	**µg/m^3**	**ppbv**	**µg/m^3**	**ppbv**
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**				
Volatile Organic Compounds (VOCs)	TO-15					
Carbon tetrachloride		0.54	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 0.136	< 0.020	0.136	0.020
Trichloroethylene (TCE)		0.4	< 0.107	< 0.020	< 0.107	< 0.020

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. The samples collected in January 2009 (31-33KNOW-1A and 1B, and 31-33KNOW-B1 and B2) were field duplicates.
7. On January 25, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for 1 week prior to collection of indoor air samples on February 2, 2016, November 9, 2016, March 16, 2017, and September 20, 2017.
9. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
10. Highlighted sample indicates most recent

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-5. Summary of Meteorological Data During Air Sampling Events
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Sample Location	Sample Date	Sample Location	Inside Temperature (ºF)[1,3]		Inside Barometric Pressure (in. Hg)[2,4]		Outside Temperature (ºF)[1,3]		Outside Barometric Pressure (in. Hg)[2,4]		Prevailing Wind Direction		General Weather Conditions		Significant precipitation within 12 hours prior to Sampling?
			Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	
Residences															
31 - 33 Knowlton Street	3/15/2017	B	64.2	63.2	30.02	30.17	70.9	65.2	30.02	30.17	Calm	Calm	Overcast	Rain	Yes
		1	69.8	69.5	30.01	30.16									

General Notes:
1. ºF = degrees Fahrenheit.
2. in. Hg = inches of mercury.
3. Temperatures were measured in the field using a hand-held thermometer.
4. Barometric pressures were measured in the field with a digital barometer.
5. NM = Not Measured.
6. NA = Not Applicable.
7. Samples were collected from the basement (B) and the first floor (1) of each building.

Table 3-1. Summary of SSDS Monitoring Events - Capuano Center
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
7/31/2017	1	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No
11/7/2017	2	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) isobutylene.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Cafetorium		Room 101				Room 108				Room 121		Room 122						Room 125				Room 126					
	Sample ID:	150 GLEN-CAF		150 GLEN-ROOM 101A		150 GLEN-ROOM 101B		150 GLEN-ROOM 108A		150 GLEN-ROOM 108B		150 GLEN-ROOM 121		150 GLEN-ROOM 122		150 GLEN-RM 122		150 GLEN-RM 122		150 GLEN-ROOM 125A		150 GLEN-ROOM 125B		150 GLEN-ROOM 126		150 GLEN-ROOM 100 (FD-Room 126)		150 GLEN-RM 126	
	Sample Date:	1/6/07		12/27/06		12/28/06		12/27/06		12/28/06		1/6/07		1/6/07		2/7/07		5/23/15		12/27/06		12/28/06		1/13/07		1/13/07		2/7/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.49 J J+	0.078 J J+	< 1.3	< 0.20	< 1.3	< 0.20	0.94 J	0.15 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+	0.51 J	0.081 J J+	0.69 J	0.11 J	NT	NT	1.0 J	0.16 J	< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.94 J	0.15 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		0.88 J J+	0.13 J J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.88 J	0.13 J	0.75 J	0.11 J	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 126 (continued)																									
Sample ID:		150GLEN-ROOM 126		150 GLEN-ROOM 126		150 GLEN-RM 126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126	
Sample Date:		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/172008		4/21/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.60 J	0.095 J	0.69 J	0.11 J	0.82 J	0.13 J	< 1.3	< 0.20	0.69 J	0.11 J	0.59 J	0.093 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Room 126 (continued)																Room 134						Room 136		Room 137			
		Sample ID:	150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150 GLEN-ROOM 134		150 GLEN-RM 134		150 GLEN-RM 134		150 GLEN-ROOM 136		150 GLEN-ROOM 137A		150 GLEN-ROOM 137B	
		Sample Date:	8/18/08		11/24/08		3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		2/7/07		5/23/15		1/13/07		1/6/07		1/6/07	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride			0.60 J	0.096 J	0.60 J	0.096 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.75 J	0.12 J	0.94 J	0.15 J	NT	NT	0.69 J	0.11 J	0.52 J J+	0.082 J J+	< 1.3	< 0.20
Dichloroethane,1,1-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	3.2	0.47	< 1.4	< 0.20	< 1.4	< 0.20	2.1	0.31	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	0.54 J	0.10 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Room 138																									
		Sample ID:	RM138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138 (Alpha duplicate)		150 GLEN-RM 138		150 GLEN-RM 139 (FD-Room 138)		150GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-RM 138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138	
		Sample Date:	1/2/07		1/6/07		1/13/07		1/26/07		1/26/07		2/7/07		2/7/07		3/8/07		3/8/07		4/20/07		4/20/07		5/17/07		5/17/07		7/30/07	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																													
Volatile Organic Compounds (VOCs)	TO-15																													
Carbon tetrachloride			< 1.3	< 0.20	0.49 J J+	0.078 J J+	0.82 J	0.13 J	0.82 J	0.13 J	< 0.126	< 0.020	0.75 J	0.12 J	0.52 J	0.082 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.61 J	0.097 J
Dichloroethane,1,1-			0.45 J	0.11 J	0.77 J J+	0.19 J J+	0.57 J	0.14 J	0.65 J	0.16 J	< 0.081	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.079	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.20	2.1 J+	0.54 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.20	0.83 J+	0.21 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.0819	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+
Tetrachloroethylene (PCE)			14	2.0	60 J+	8.8 J+	20	3.0	20	3.0	32.6	4.8	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.17 J
Trichloroethane,1,1,1- (TCA)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)			2.3	0.42	7 J+	1.3 J+	3.1	0.57	3.3	0.61	4.26	0.794	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 138 (continued)																									
Sample ID:		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
Sample Date:		7/30/07		9/10/07		9/10/07		10/8/07		10/8/07		10/8/07		10/8/07		10/14/07		10/14/07		10/14/07		10/14/07		11/15/07		11/15/07		12/13/07	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.88 J	0.14 J	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.094 J	0.62 J	0.099 J	0.69 J	0.11 J	0.69 J	0.11 J	0.57 J	0.091 J
Dichloroethane,1,1-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		1.1 J	0.16 J	< 1.4 J+	< 0.20 J+	6.5	0.96	< 1.4	< 0.20	1.5	0.22	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Room 138 (continued)																									
		Sample ID:	150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
		Sample Date:	12/13/07		1/21/08		1/21/08		2/19/08		2/19/08		2/22/08		2/22/08		3/17/08		3/17/08		4/21/08		4/21/08		8/18/08		8/18/08		11/24/08	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																													
Volatile Organic Compounds (VOCs)	TO-15																													
Carbon tetrachloride			< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	0.69 J	0.11 J	0.69 J	0.11 J	0.63 J	0.10 J	0.62 J	0.098 J
Dichloroethane,1,1-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.8	0.27	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 138 (continued)																									
	Sample ID:	150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	11/24/08		3/2/09		3/2/09		8/27/09		8/27/09		11/11/09		11/11/09		2/19/10		2/19/10		11/11/10		11/11/10		3/17/11		3/17/11		5/23/15	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.53	< 0.13	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.52	< 0.13	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.37	< 0.094	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 0.82	< 0.12	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 0.95	< 0.14	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 0.76	< 0.14	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 0.70	< 0.13	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 141																									
	Sample ID:	150 GLEN-ROOM 141		150GLEN-ROOM 141		150 GLEN-ROOM 141		150 GLEN-RM 141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141	
	Sample Date:	1/6/07		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		0.45 J J+	0.071 J J+	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3 J+	< 0.20 J+	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 141 (continued)																Room 142											
	Sample ID:	150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		RM142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-ROOM 142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-RM142	
	Sample Date:	4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		2/19/10		11/11/10		3/17/11		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07		5/17/07		7/30/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.69 J	0.11 J	0.60 J	0.096 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	< 1.3	< 0.20	0.52 J J+	0.083 J J+	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	1.4	0.35	1.2 J+	0.29 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	1.0	0.25
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	0.87	0.22	2.5 J+	0.63 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	28	4.1	45 J+	6.6 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	0.33 J J+	0.061 J J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	0.62 J	0.092 J	0.62 J	0.092 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	3.7	0.69	5.4 J+	1 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 142 (cont)																											
Sample ID:		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142	
Sample Date:		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		11/11/09	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Room 142 (continued)								Room 144				Room 145		Room 146													
		Sample ID:	150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150 GLEN-ROOM 144		150 GLEN-ROOM 144 (Alpha duplicate)		150 GLEN-ROOM 145		150 GLEN-ROOM 146A		150 GLEN-ROOM 146B		150 GLEN-ROOM 146B (FD-Room 146)		RM146		150 GLEN-ROOM 146		150 GLEN-RM 146		150GLEN-ROOM 146		150 GLEN-ROOM 146	
		Sample Date:	2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		1/13/07		1/6/07		12/27/06		12/28/06		12/28/06		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride			< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.88 J	0.14 J	< 3.14	< 0.50	0.45 J J+	0.071 J J+	1.1 J	0.18 J	< 1.3	< 0.20	0.49 J	0.078 J	0.63 J	0.10 J	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 2.02	< 0.50	< 0.81	< 0.20	10	2.5	3.6	0.88	3.3	0.82	0.53 J	0.13 J	0.57 J J+	0.14 J J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 1.98	< 0.50	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 1.98	< 0.50	< 0.79	< 0.20	7.9	2.0	4.0	1.0	3.9	0.99	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 2.02	< 0.50	< 0.79	< 0.20	3.3	0.83	1.3	0.33	1.2	0.31	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 2.0	< 0.50	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)			< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	4.1	0.61	4.36	0.643	< 1.4	< 0.20	186	27.5	83.4	12.3	85.4	12.6	11	1.6	26 J+	3.8 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)			< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 2.72	< 0.50	< 1.1	< 0.20	2.1	0.38	0.82 J	0.15 J	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)			< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	1.3	0.24	< 2.68	< 0.50	< 1.1	< 0.20	37	6.8	10	1.9	11	2.1	1.7	0.32	3.0 J+	0.56 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 146 (continued)																									
Sample ID:		150 GLEN-RM 146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146	
Sample Date:		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08	
Analyte	Units: Method	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	0.62 J	0.099 J	0.82 J	0.13 J	< 1.3	< 0.20	0.58 J	0.092 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.62 J	0.098 J	< 1.3	< 0.20	0.75 J	0.12 J	0.60 J	0.096 J	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	0.49 J	0.12 J	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4 +	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 146 (continued)														Outside of School by Room 126 Window						Outside of School by Day Care Window					
	Sample ID:	150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150 GLEN-0-1A		150 GLEN-0-1B		150 GLEN-0-1A		150 GLEN-0-2A		150 GLEN-0-2B		150 GLEN-0-2A	
	Sample Date:	3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		12/27/06		12/28/06		1/6/07		12/27/06		12/28/06		1/6/07	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	0.52 J J+	0.083 J J+	1.1 J	0.17 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	0.93 J	0.17 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Downwind on Roof																					
		Sample ID:	150 GLEN-ROOF B		150 GLEN-ROOF B		150GLEN-ROOF		150 GLEN-ROOF		150 GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
		Sample Date:	2/8/07		2/8/07		3/8/07		4/20/07		5/17/07		8/9/07		9/10/07		10/14/07		11/14/07		12/17/07		1/21/08		2/19/08	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**																									
Volatile Organic Compounds (VOCs)	TO-15																									
Carbon tetrachloride			< 1.3	< 1.3	< 0.20	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-			< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)			< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)			< 1.2	< 1.2	< 0.21	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)			< 1.1	< 1.1	< 0.20	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Downwind on Roof (cont)											
	Sample ID:	150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
	Sample Date:	3/17/08		4/21/08		8/18/08		11/24/08		8/27/09		11/11/09	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride		< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 4-1. Exposure Pathway Mitigation Measure (EPMM) Status
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Property Address	EPMM Design Option	Date Completed or Last Modified	Date of Last Indoor Air Monitoring	Construction Details												
				Ventilation Fan(s) (Model No.)[a]	Number of Sub-Slab Vapor Extraction Points (SSDS)	Sub-slab Vapor Barrier - HDPE Liner	Sub-Slab Ventilation System - Geocomposite	Sub-Slab Vapor Trench	Foundation Wall Ventilation System - Geocomposite	New Basement Slab Installed	Crawlspace Vapor Barrier	Epoxy Vapor Barrier - Floor	Epoxy Vapor Barrier - Foundation Walls	Telemetry Installed (if necessary)	Reason Telemetry not Installed (if applicable)	AUL Recorded (Yes/No)
91-93 Franklin Street	3	March, 2009	3/1/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
95 Franklin Street	2/1[b]	May, 2011	5/16/2013	GP-501	-	-	-	Yes	-	-	Yes	Yes	Yes	Yes	-	No
95R Franklin Street	2	December, 2007	3/8/2010	-	-	-	-	Yes	Yes	-	Yes	Yes	Yes	-	-	Yes
150 Glen Street	1	April, 2015	5/23/2015	GP-501 (3)	18	-	-	-	-	-	-	-	-	Yes	-	No
166-168 Glen Street	3	November, 2010	3/1/2012	-	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-	-	Yes
9 Knowlton Street	1	January, 2010	5/21/2007	GP-501	5	-	-	-	-	-	-	-	-	No	Refused access	Yes
13 Knowlton Street	1	January, 2010	2/1/2011	GP-501	4	-	-	-	-	-	-	-	-	Yes	-	Yes
17 Knowlton Street	3	March, 2009	3/7/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
31-33 Knowlton Street	1	February, 2008	3/19/2010	HS-5000	7	-	-	-	-	-	-	-	-	Yes	-	No
32 Knowlton Street	3	May, 2009	3/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	Yes
34 Knowlton Street	3	June, 2014	4/27/2015	-	-	Yes	-	-	-	Yes	-	-	-	-	-	Yes
35-37 Knowlton Street	3/1[b]	April, 2010	3/11/2011	GP-501	-	Yes	Yes	-	-	Yes	-	Yes	Yes	Yes	-	No
4 Morton Street	3	November, 2008	3/20/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	No
10 Morton Street	3	March, 2009	3/5/2011	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
11 Morton Street	2	November, 2008	2/23/2010	-	-	-	-	Yes	Yes	-	-	Yes	Yes	-	-	Yes
12 Morton Street	3	March, 2008	11/19/2010	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
13 Morton Street	1	October, 2008	9/17/2014	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
18 Morton Street	1	July, 2007	2/24/2011	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
19-19A Morton Street	3	August, 2009	3/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	Yes
23 Tufts Street	1	May, 2007	2/25/2010	GP-501	1	-	-	-	-	-	-	-	-	Yes	-	No
27 Tufts Street	3/1[b]	May, 2011	5/23/2013	GP-501	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	-	No
50 Tufts Street	1	August, 2007	3/11/2015	Regenerative Blower	22	-	-	-	-	-	-	Yes	-	Yes	-	No
60 Tufts Street	1	April, 2009	2/5/2011	Regenerative Blower	14	-	-	-	-	-	-	-	-	Yes	-	No

General Notes:
1. NS = Not sampled.
2. - = Not Applicable.

Footnotes:
(a) Ventilation fans manufactured by Radon Away.
(b) An Option 2 or 3 EPMM was initially installed at these properties; however, a fan was added to the EPMM to improve performance. Therefore, these EPMMs consist of Option 1 with Option 2 or 3 EPMM elements.

Table 4-2. Indoor Air Sampling and EPMM Monitoring - June 16, 2017 through December 15, 2017
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
Residential and Commercial Properties
Somerville, Massachusetts

Property	Property Type	Indoor Air Sampling[1]	EPMM Inspection[3]	Indoor Air Sampling Rationale
31-33 Knowlton Street	Residential	9/19/2017	NA	SSDS shutdown testing

General Notes:

1. EPMM = Exposure Pathway Mitigation Measure.
2. See Appendix D for Air Sampling Checklists.
3. See Section 4 for a description of EPMM Inspection activities. 60 Tufts Street EPMM is inspected quarterly; see Section 5.
4. NA = No inspection was performed during this reporting period.
5 SSDS = Sub-slab depressurization system.

Table 5-1. Summary of SSDS Monitoring Events - 60 Tufts Street
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
7/24/2017	1	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No
11/7/2017	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 ppm isobutylene gas.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 6-1. Summary of SSDS Monitoring Events - 50 Tufts Street
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
6/15/2017	1	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
7/24/2017	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at each header pipe, the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate	No
8/31/2017	3	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
10/3/2017	4	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
10/17/2017	5	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate	No
11/8/2017	6	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
12/6/2017	7	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VFD = Variable Flow Drive.
5. SVT/SVE = Soil Vapor Temporary Point/Soil Vapor Extraction.
6. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) with 10.6V lamp.
7. Pressure readings collected using a Dwyer 475-000-FM manometer

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	5/15/2006		5/16/2006		5/23/2006		5/31/2006		7/24/2006		8/1/2006		8/3/2006	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	9.69	16.21	9.53	16.37	10.9	15	11.39	14.51	--	--	--	--	--	--
MW-2	unknown	25.38	8.99	16.39	10.36	15.02	Dry	Dry	Dry	Dry	--	--	--	--	--	--
MW-3	unknown	25.31	8.88	16.43	9.32	15.99	11.16	14.15	12.71	12.6	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	10.56	16.19	11.53	15.22	12.1	14.65	12.33	14.42	12.51	14.24	13.47	13.28
MW-102	6-16	18.89	--	--	6.62	12.27	6.86	12.03	7.44	11.45	7.93	10.96	8.16	10.73	9.11	9.78
MW-103	6-16	19.47	--	--	9.5	9.97	10.37	9.1	10.74	8.73	11.15	8.32	11.31	8.16	12.24	7.23
MW-104	5-15	17.67	--	--	--	--	7.93	9.74	8.89	8.78	9.06	8.61	9.39	8.28	10.29	7.38
MW-105	19-29	38.84	--	--	19.49	19.35	20.21	18.63	20.7	18.14	21.18	17.66	21.43	17.41	22.41	16.43
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	9.69	16.19	9.9	15.98	10.92	14.96	11.36	14.52	--	--	--	--	--	--
GEO-2	5 - 20	26.54	9.76	16.78	--	--	11.38	15.16	11.91	14.63	--	--	--	--	--	--
GEO-3	5 - 20	25.64	10.43	15.21	9.59	16.05	9.87	15.77	10.67	14.97	11.67	13.97	11.85	13.79	12.84	12.8
GEO-4	4 - 19	21.69	--	--	7.79	13.9	9.85	11.84	10.78	10.91	11.25	10.44	11.45	10.24	12.43	9.26
GEO-5	5 - 20	20.14	--	--	6.78	13.36	9.08	11.06	9.96	10.18	10.29	9.85	10.56	9.58	11.51	8.63
GEO-6	5 - 20	17.62	--	--	5.66	11.96	7.39	10.23	8.23	9.39	8.43	9.19	8.73	8.89	9.64	7.98
SH-1	9 - 14	29.55	10.15	19.4	11.4	18.15	Dry	Dry	Dry	Dry	--	--	--	--	--	--
SH-2	7 - 14	29.64	5.71	23.93	7.86	21.78	12.07	17.57	12.22	17.42	--	--	--	--	--	--
SH-3	8 - 13	29.66	7.54	22.12	8.56	21.1	12.73	16.93	12.96	16.7	--	--	--	--	--	--
SH-4	11 - 16	29.63	13.53	16.1	13.48	16.15	14.48	15.15	15.02	14.61	--	--	--	--	--	--
SH-5	8 - 13	29.63	Dry	Dry	--	--	12.99	16.64	13.03	16.6	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	6.72	17.3	--	--	11.44	12.58	12.18	11.84	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	9.33	14.94	--	--	12.05	12.22	12.69	11.58	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	7.8	14.51	--	--	10.26	12.05	11.03	11.28	--	--	--	--	--	--
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	8/16/2006		9/29/2006		10/4/2006		11/14/2006		12/12/2006		1/16/2007		2/12/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.9	14	--	--	11.88	14.02	--	--	--	--	11.6	14.3	--	--
MW-2	unknown	25.38	Dry	Dry	--	--	--	--	--	--	--	--	Destroyed	Destroyed	--	--
MW-3	unknown	25.31	13.73	11.58	--	--	13.75	11.56	--	--	--	--	13.05	12.26	--	--
MW-101	9-19	26.75	12.78	13.97	12.85	13.9	12.76	13.99	12.25	14.5	12.57	14.18	12.4	14.35	12.81	13.94
MW-102	6-16	18.89	8.51	10.38	8.68	10.21	8.52	10.37	7.64	11.25	8.01	10.88	7.72	11.17	8.52	10.37
MW-103	6-16	19.47	11.72	7.75	11.98	7.49	11.92	7.55	11	8.47	11.21	8.26	10.88	8.59	11.74	7.73
MW-104	5-15	17.67	9.87	7.8	9.95	7.72	9.92	7.75	--	--	--	--	8.73	8.94	--	--
MW-105	19-29	38.84	21.91	16.93	22.27	16.57	22.18	16.66	21.16	17.68	21.76	17.08	21.46	17.38	22.03	16.81
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	12.27	14.06
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	4.54	10.09
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	4.93	7.81
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	12.07	12.05
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	5.99	9.59
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	11.38	7.57
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	Dry	Dry
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	11.82	14.06	--	--	11.85	14.03	--	--	--	--	11.55	14.33	--	--
GEO-2	5 - 20	26.54	12.51	14.03	--	--	12.51	14.03	--	--	--	--	12.2	14.34	--	--
GEO-3	5 - 20	25.64	12.25	13.39	12.37	2.84	12.35	13.29	11.63	14.01	11.72	13.92	11.58	14.06	12.21	13.43
GEO-4	4 - 19	21.69	11.9	9.79	12.09	9.6	12.04	9.65	10.58	11.11	11.31	10.38	10.77	10.92	11.83	9.86
GEO-5	5 - 20	20.14	10.99	9.15	11.21	8.93	11.15	8.99	9.47	10.67	10.48	9.66	9.73	10.41	11.02	9.12
GEO-6	5 - 20	17.62	9.25	8.37	9.41	8.21	9.26	8.36	7.65	9.97	8.82	8.8	8.11	9.51	9.3	8.32
SH-1	9 - 14	29.55	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-2	7 - 14	29.64	11.98	17.66	--	--	12	17.64	--	--	--	--	Dry	Dry	--	--
SH-3	8 - 13	29.66	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-4	11 - 16	29.63	15.09	14.54	--	--	15.1	14.53	--	--	--	--	Dry	Dry	--	--
SH-5	8 - 13	29.63	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-MW1	10 - 30	24.02	13.09	10.93	--	--	13.17	10.85	--	--	--	--	12.21	11.81	--	--
SH-MW2	10 - 25	24.27	13.38	10.89	--	--	13.41	10.86	--	--	--	--	12.73	11.54	--	--
SH-MW3	10 - 24	22.31	13	9.31	--	--	12.04	10.27	--	--	--	--	11.04	11.27	--	--
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	3/14/2007		4/12/2007		5/29/2007		6/26/2007		7/16/2007		8/22/2007		9/27/2007		10/23/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	11.39	14.51	11.41	14.49	11.8	14.1	12.04	13.86	--	--	12.26	13.64	12.07	13.83
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	12.57	12.74	14.89	10.42	13.6	11.71	13.94	11.37	--	--	14.34	10.97	13.94	11.37
MW-101	9-19	26.75	12.34	14.41	12.11	14.64	12.17	14.58	12.62	14.13	12.85	13.9	13.03	13.72	13.17	13.58	12.91	13.84
MW-102	6-16	18.89	--	--	7.46	11.43	6.72	12.17	8.36	10.53	8.74	10.15	9.08	9.81	9.35	9.54	8.97	9.92
MW-103	6-16	19.47	11	8.47	10.66	8.81	10.81	8.66	11.47	8.0	11.92	7.55	12.3	7.17	12.63	6.84	--	--
MW-104	5-15	17.67	--	--	8.75	8.92	--	--	9.62	8.05	10.09	7.58	10.36	7.31	10.61	7.06	10.31	7.36
MW-105	19-29	38.84	21.56	17.28	20.88	17.96	20.86	17.98	21.55	17.29	22.13	16.71	22.79	16.05	23.18	15.66	22.96	15.88
MW-106	9 - 19	26.33	12.91	13.42	11.65	14.68	11.69	14.64	12.07	14.26	12.33	14	12.48	13.85	12.61	13.72	12.39	13.94
MW-107	2 - 12	14.63	4.5	10.13	4.49	10.14	4.46	10.17	4.48	10.15	4.52	10.11	4.75	9.88	4.51	10.12	4.47	10.16
MW-108	2 - 12	12.74	4.02	8.72	9.91	2.83	4.25	8.49	5.06	7.68	6.59	6.15	6.25	6.49	6.28	6.46	5.86	6.88
MW-109	3 - 13	24.12	11.27	12.85	10.27	13.85	10.73	13.39	11.76	12.36	12.24	11.88	Dry	Dry	Dry	Dry	Dry	Dry
MW-110	3 - 13	15.58	1.46	14.12	1.04	14.54	2.56	13.02	6.57	9.01	7.17	8.41	7.86	7.72	8.37	7.21	6.92	8.66
MW-111	4 - 14	18.95	10.62	8.33	10.65	8.3	10.68	8.27	11.11	7.84	11.54	7.41	11.96	6.99	12.34	6.61	11.99	6.96
MW-112	3 - 10	18.16	8.01	10.15	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
MW-112a	4-19	17.78	12.76	5.02	12.76	5.02	12.67	5.11	12.81	4.97	12.88	4.9	--	--	12.95	4.83	12.8	4.98
MW-113	10-20	26.16	11.66	14.5	11.44	14.72	11.51	14.65	11.99	14.17	12.22	13.94	12.43	13.73	12.58	13.58	12.3	13.86
MW-114	7-17	29.43	12.67	16.76	11.27	18.16	11.53	17.9	12.88	16.55	15.57	13.86	14.24	15.19	14.84	14.59	14.66	14.77
MW-115	10-25	27.15	17.19	9.96	16.21	10.94	16.63	10.52	17.42	9.73	17.97	9.18	18.38	8.77	18.81	8.34	18.37	8.78
MW-116	5-15	13.45	8.78	4.67	8.34	5.11	8.65	4.8	8.76	4.69	--	--	8.85	4.6	8.91	4.54	8.83	4.62
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	15.27	6.67	15.7	6.24	16.03	5.91	16.2	5.74
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	15.95	5.92	16.38	5.49	16.81	5.06	16.91	4.96
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	15.87	5.91	16.26	5.52	16.69	5.09	16.77	5.01
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	11.64	3.88	9.84	5.68	10.2	5.32	9.42	6.1
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	10.36	4.94	10.51	4.79	10.74	4.56	10.68	4.62
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	10.18	4.97	10.32	4.83	10.55	4.6	10.49	4.66
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	4.91	6.83	4.99	6.75	4.93	6.81
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	6.45	5.22	6.8	4.87	6.72	4.95
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	5.25	7.29	5.35	7.19	4.71	7.83
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	4.21	8.24	3.94	8.51
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.36	5.08
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.92	4.89
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	--	--	11.36	14.52	11.38	14.5	11.73	14.15	11.93	13.95	12.1	13.78	12.21	13.67	11.98	13.9
GEO-2	5 - 20	26.54	--	--	11.97	14.57	11.99	14.55	12.4	14.14	13.6	12.94	12.81	13.73	12.91	13.63	12.63	13.91
GEO-3	5 - 20	25.64	11.49	14.15	10.76	14.88	11.04	14.6	11.94	13.7	---	---	12.7	12.94	12.94	12.7	12.61	13.03
GEO-4	4 - 19	21.69	11.03	10.66	10.51	11.18	10.87	10.82	11.64	10.05	12.09	9.6	12.55	9.14	13.02	8.67	12.64	9.05
GEO-5	5 - 20	20.14	10.15	9.99	9.7	10.44	10.01	10.13	10.79	9.35	11.25	8.89	11.74	8.4	11.18	8.96	11.72	8.42
GEO-6	5 - 20	17.62	8.54	9.08	8.32	9.3	8.25	9.37	8.9	8.72	9.5	8.12	9.92	7.7	10.22	7.4	9.96	7.66
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	12.01	12.01	12.26	11.76	---	---	---	---	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	12.61	11.66	12.74	11.53	13.25	11.02	13.48	10.79	13.72	10.55	14.04	10.23	13.68	10.59
SH-MW3	10 - 24	22.31	--	--	10.81	11.5	--	--	11.72	10.59	12.08	10.23	12.43	9.88	12.79	9.52	12.41	9.9
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	13.71	13.8	13.83	13.68	13.58	13.93
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	13.99	13.83	14.08	13.74	13.88	13.94
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	14.05	7.75	14.39	7.41	13.86	7.94

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/30/2007		1/9/2008		2/26/2008		3/18/2008		4/15/2008		5/19/2008		7/14/08		8/22/08	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.95	13.95	--	--	--	--	--	--	11.42	14.48	11.57	14.33	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	---	--	--	--	--	--	--
MW-3	unknown	25.31	13.75	11.56	12.86	12.45	12.05	13.26	12.37	12.94	12.81	12.5	12.99	---	--	--	--	--
MW-101	9-19	26.75	13.82	12.93	12.11	14.64	--	--	11.85	14.9	12.02	14.73	12.26	14.49	13.11	13.64	--	--
MW-102	6-16	18.89	8.01	10.88	7.46	11.43	7.29	11.6	7.17	11.72	8.57	10.32	7.9	10.99	9.51	9.38	8.00	10.89
MW-103	6-16	19.47	12.18	7.29	10.74	8.73	10.51	8.96	10.5	8.97	10.82	8.65	11.11	8.36	12.17	7.30	11.17	8.30
MW-104	5-15	17.67	10.07	7.6	8.86	8.81	8.61	9.06	8.48	9.19	9.84	7.83	9.25	8.42	9.67	8.00	9.06	8.61
MW-105	19-29	38.84	22.74	16.1	21.39	17.45	20.79	18.05	20.41	18.43	20.91	17.93	21.24	17.6	22.02	16.82	21.40	17.44
MW-106	9 - 19	26.33	12.27	14.06	11.71	14.62	11.51	14.82	11.38	14.95	12.54	13.79	11.72	14.61	11.68	14.65	11.73	14.60
MW-107	2 - 12	14.63	4.44	10.19	4.35	10.28	--	--	4.46	10.17	5.58	9.05	---	---	4.52	10.11	4.41	10.22
MW-108	2 - 12	12.74	4.74	8.0	3.71	9.03	4.61	8.13	3.68	9.06	3.91	8.83	3.99	8.75	5.16	7.58	4.44	8.30
MW-109	3 - 13	24.12	12.78	11.34	10.64	13.48	10.06	14.06	10.02	14.1	11.64	12.48	11.29	12.83	11.87	12.25	11.18	12.94
MW-110	3 - 13	15.58	3.34	12.24	--	--	0.79	14.79	1.12	14.46	1.57	14.01	2.5	13.08	--	--	3.59	11.99
MW-111	4 - 14	18.95	12.27	6.68	10.51	8.44	10.5	8.45	10.54	8.41	16.64	2.31	10.71	8.24	12.23	6.72	10.73	8.22
MW-112	3 - 10	18.16	Dry	Dry	Dry	Dry	Dry	Dry	--	--	----	---	---	---	--	--	8.33	9.83
MW-112a	4-19	17.78	--	--	12.43	5.35	12.52	5.26	12.61	5.17	13.71	4.07	12.77	5.01	13.56	4.22	12.93	4.85
MW-113	10-20	26.16	12.6	13.56	11.5	14.66	11.28	14.88	11.15	15.01	11.39	14.77	11.62	14.54	12.01	14.15	11.63	14.53
MW-114	7-17	29.43	14.31	15.12	12.08	17.35	11.11	18.32	10.75	18.68	12.42	17.01	12.3	17.13	13.24	16.19	12.21	17.22
MW-115	10-25	27.15	18.24	8.91	16.18	10.97	15.85	11.3	15.86	11.29	16.45	10.7	16.72	10.43	18.49	8.66	16.78	10.37
MW-116	5-15	13.45	--	--	8.6	4.85	8.68	4.77	8.77	4.68	8.85	4.6	8.88	4.57	9.09	4.36	9.01	4.44
MW-117S	5 - 20	21.94	15.95	5.99	13.97	7.97	13.52	8.42	13.5	8.44	14.22	7.72	14.6	7.34	14.99	6.95	13.90	8.04
MW-117T	35 - 45	21.87	16.58	5.29	14.58	7.29	13.97	7.9	13.9	7.97	14.67	7.2	14.94	6.93	15.68	6.19	15.27	6.60
MW-117D	60 - 70	21.78	16.44	5.34	14.46	7.32	13.86	7.92	13.81	7.97	14.51	7.27	14.89	6.89	15.61	6.17	14.67	7.11
MW-118S	3 - 14	15.52	9.4	6.12	8.55	6.97	8.34	7.18	8.4	7.12	10	5.52	9.38	6.14	9.64	5.88	8.48	7.04
MW-118T	39.5 - 49.5	15.30	10.5	4.8	9.93	5.37	9.49	5.81	9.53	5.77	9.83	5.47	9.94	5.36	10.35	4.95	9.92	5.38
MW-118D	70 - 80	15.15	10.25	4.9	9.55	5.6	9.3	5.85	9.35	5.8	9.64	5.51	9.8	5.35	10.11	5.04	9.70	5.45
MW-119S	5 - 20	11.74	4.85	6.89	4.63	7.11	4.6	7.14	4.56	7.18	4.91	6.83	4.92	6.82	4.94	6.80	6.08	5.66
MW-119T	42 - 47	11.67	6.57	5.1	5.82	5.85	5.63	6.04	5.78	5.89	5.97	5.7	6.1	5.57	6.52	5.15	4.52	7.15
MW-120S	5 - 20	12.54	4.62	7.92	3.51	9.03	4.06	8.48	4.0	8.54	5.1	7.44	4.57	7.97	5.18	7.36	4.61	7.93
MW-120D	28 - 38	12.45	3.48	8.97	3.17	9.28	2.96	9.49	3.11	9.34	3.26	9.19	3.44	9.01	3.82	8.63	2.90	9.55
MW-121S	5 - 20	12.44	7.41	5.03	7.24	5.2	7.36	5.08	7.41	5.03	9.39	3.05	7.29	5.15	9.21	3.23	7.70	4.74
MW-121D	32 - 47	12.81	7.75	5.06	6.95	5.86	6.83	5.98	6.91	5.9	7.31	5.5	7.27	5.54	7.64	5.17	7.30	5.51
MW-122	4 - 16	16.42	--	--	--	--	12.98	3.44	13	3.42	13.03	3.39	12.99	3.43	13.15	3.27	13.17	3.25
GEO-1	5 - 20	25.88	11.91	13.97	11.41	14.47	11.22	14.66	--	--	11.25	14.63	11.4	14.48	12.32	13.56	12.00	13.88
GEO-2	5 - 20	26.54	12.57	13.97	12.02	14.52	11.77	14.77	--	--	12.81	13.73	12.01	14.53	11.73	14.81	11.41	15.13
GEO-3	5 - 20	25.64	12.54	13.1	10.99	14.65	10.71	14.93	--	--	10.97	14.67	---	---	12.05	13.59	11.57	14.07
GEO-4	4 - 19	21.69	12.47	9.22	11.72	9.97	10.36	11.33	10.34	11.35	11.46	10.23	11.13	10.56	11.60	10.09	11.16	10.53
GEO-5	5 - 20	20.14	12.62	7.52	9.92	10.22	9.42	10.72	9.52	10.62	10.8	9.34	10.21	9.93	10.89	9.25	10.28	9.86
GEO-6	5 - 20	17.62	9.96	7.66	8.21	9.41	7.78	9.84	7.86	9.76	9.11	8.51	8.51	9.11	9.20	8.42	7.91	9.71
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-MW2	10 - 25	24.27	13.85	10.42	12.77	11.5	12.49	11.78	12.46	11.81	13.62	10.65	12.89	11.38	11.83	12.44	12.92	11.35
SH-MW3	10 - 24	22.31	12.05	10.26	11.55	10.76	10.68	11.63	10.65	11.66	11.83	10.48	11.21	11.1	13.27	9.04	11.30	11.01
MW201	11-21	27.51	13.5	14.01	12.98	14.53	12.76	14.75	12.64	14.87	12.85	14.66	13.94	13.57	13.31	14.2	13.00	14.51
MW202	10.5-20.5	27.82	13.81	14.01	13.41	14.41	13.22	14.6	13.12	14.7	12.73	15.09	13.37	14.45	13.68	14.14	13.41	14.41
MW203	6-18	21.80	13.61	8.19	12.86	8.94	12.03	9.77	12	9.8	13.31	8.49	12.68	9.12	13.15	8.65	12.55	9.25

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	10/20/08		1/13/09		4/13/09		7/14/09		10/14/09		4/12/10		10/27/10		4/20/11	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	12.49	12.82	12.28	13.03	12.92	12.39	13.19	12.12	--	--	--	--	--	--
MW-101	9-19	26.75	12.61	14.14	12.07	14.68	11.91	14.84	12.2	14.55	12.37	14.38	11.61	15.14	--	--	11.73	15.02
MW-102	6-16	18.89	8.49	10.4	7.50	11.39	7.35	11.54	7.85	11.04	7.99	10.9	7.11	11.78	--	--	7.04	11.85
MW-103	6-16	19.47	11.87	7.6	10.73	8.74	10.57	8.9	11.07	8.4	11.34	8.13	10.47	9.00	--	--	10.39	9.08
MW-104	5-15	17.67	9.72	7.95	8.71	8.96	7.98	9.69	8.84	8.83	9.38	8.29	8.52	9.15	--	--	9.28	8.39
MW-105	19-29	38.84	21.8	17.04	20.9	17.94	20.65	18.19	21.4	17.44	21.8	17.04	19.84	19.00	--	--	20.63	18.21
MW-106	9 - 19	26.33	11.64	14.69	11.6	14.73	11.49	14.84	overflowing	--	overflowing	--	11.16	15.17	--	--	11.39	14.94
MW-107	2 - 12	14.63	4.49	10.14	4.5	10.13	4.47	10.16	overflowing	--	overflowing	--	4.31	10.32	--	--	4.43	10.2
MW-108	2 - 12	12.74	4.71	8.03	3.4	9.34	3.73	9.01	4.37	8.37	4.66	8.08	3.86	8.88	--	--	3.56	9.18
MW-109	3 - 13	24.12	11.73	12.39	10.43	13.69	10.4	13.72	11.11	13.01	--	--	9.88	14.24	--	--	10.10	14.02
MW-110	3 - 13	15.58	--	--	1.45	14.13	1.1	14.48	2.88	12.7	2.42	13.16	1.39	14.19	--	--	1.67	13.91
MW-111	4 - 14	18.95	11.37	7.58	10.55	8.4	10.56	8.39	10.67	8.28	10.41	8.54	10.57	8.38	--	--	10.62	8.33
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	13.01	4.77	12.78	5.0	12.63	5.15	12.78	5.0	12.58	5.2	12.62	5.16	12.31	5.47	12.14	5.64
MW-113	10-20	26.16	11.99	14.17	11.41	14.75	11.23	14.93	11.56	14.6	11.73	14.43	10.93	15.23	--	--	11.00	15.16
MW-114	7-17	29.43	13.19	16.24	11.25	18.18	10.97	18.46	12.04	17.39	--	--	10.24	19.19	--	--	10.46	18.97
MW-115	10-25	27.15	17.8	9.35	16.35	10.8	15.4	11.75	16.58	10.57	17.4	9.75	16.43	10.72	--	--	16.22	10.93
MW-116	5-15	13.45	--	--	8.94	--	8.87	4.58	8.97	4.48	8.76	4.69	8.85	4.6	--	--	8.32	5.13
MW-117S	5 - 20	21.94	14.67	7.27	14.02	7.92	14.38	7.56	14.66	7.28	14.75	7.19	13.32	8.62	--	--	14.06	7.88
MW-117T	35 - 45	21.87	15.26	6.61	14.45	7.42	14.43	7.44	15.03	6.84	15.26	6.61	13.56	8.31	--	--	14.18	7.69
MW-117D	60 - 70	21.78	15.27	6.51	14.3	7.48	14.26	7.52	14.89	6.89	15.13	6.65	13.48	8.3	--	--	14.01	7.77
MW-118S	3 - 14	15.52	9.05	6.47	8.41	7.11	8.7	6.82	9.43	6.09	9.01	6.51	8.31	7.21	--	--	8.55	6.97
MW-118T	39.5 - 49.5	15.30	10.19	5.11	9.73	5.57	9.64	5.66	9.92	5.38	9.99	5.31	9.49	5.81	--	--	9.33	5.97
MW-118D	70 - 80	15.15	9.99	5.16	9.54	5.61	9.47	5.68	9.74	5.41	9.73	5.42	9.29	5.86	--	--	9.15	6.00
MW-119S	5 - 20	11.74	4.08	7.66	4.41	7.33	4.21	7.53	4.47	7.27	4.33	7.41	4.33	7.41	--	--	4.08	7.66
MW-119T	42 - 47	11.67	6.78	4.89	5.85	5.82	5.8	5.87	6.04	5.63	6.01	5.66	5.68	5.99	--	--	5.55	6.12
MW-120S	5 - 20	12.54	4.01	8.53	4.03	8.51	3.85	8.69	4.31	8.23	3.58	8.96	3.98	8.56	--	--	3.65	8.89
MW-120D	28 - 38	12.45	3.32	9.13	3.18	9.27	3.11	9.34	3.31	9.14	3.29	9.16	3.04	9.41	--	--	3.18	9.27
MW-121S	5 - 20	12.44	9.01	3.43	7.68	4.76	7.57	4.87	7.62	4.82	7.71	4.73	7.67	4.77	--	--	7.12	5.32
MW-121D	32 - 47	12.81	9.64	3.17	7.07	5.74	6.98	5.83	7.27	5.54	7.37	5.44	6.87	5.94	--	--	6.77	6.04
MW-122	4 - 16	16.42	11.42	5.0	13.15	3.27	13.16	3.26	13.14	3.28	13.12	3.3	13.09	3.33	13.04	3.38	13.06	3.36
GEO-1	5 - 20	25.88	12.14	13.74	11.26	14.62	11.07	14.81	11.31	14.57	11.54	14.34	17.06	8.82	--	--	10.92	14.96
GEO-2	5 - 20	26.54	11.58	14.96	11.88	14.66	11.7	14.84	11.99	14.55	12.25	14.29	11.41	15.13	--	--	10.55	15.99
GEO-3	5 - 20	25.64	--	--	--	--	10.86	14.78	11.48	14.16	11.79	13.85	10.27	15.37	--	--	10.62	15.02
GEO-4	4 - 19	21.69	11.89	9.8	10.56	11.13	10.21	11.48	11.00	10.69	--	--	10.26	11.43	--	--	--	--
GEO-5	5 - 20	20.14	11.79	8.35	9.70	10.44	9.30	10.84	10.08	10.06	10.44	9.7	9.48	10.66	--	--	9.18	10.96
GEO-6	5 - 20	17.62	10.95	6.67	8.02	9.6	7.48	10.14	8.18	9.44	8.66	8.96	7.62	10	--	--	7.63	9.99
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.01	12.26	12.63	11.64	12.33	11.94	12.77	11.5	13.01	11.26	10.61	13.66	--	--	12.29	11.98
SH-MW3	10 - 24	22.31	12.49	9.82	10.87	11.44	10.52	11.79	11.12	11.19	11.46	10.85	12.39	9.92	--	--	10.46	11.85
MW201	11-21	27.51	14.64	12.87	13.27	14.24	12.69	14.82	12.94	14.57	13.09	14.42	12.42	15.09	--	--	12.57	14.94
MW202	10.5-20.5	27.82	13.29	14.53	12.82	15	13.15	14.67	13.33	14.49	13.55	14.27	12.94	14.88	--	--	13.02	14.80
MW203	6-18	21.80	13.02	8.78	12.25	9.55	11.5	10.3	12.29	9.51	12.77	9.03	12.03	9.77	--	--	11.83	9.97

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/16/11		4/16/12		11/12/12		4/23/13		11/18/13		4/30/14		6/11/14		11/18/14	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	12.71	14.04	--	--	12.41	14.34	--	--	12.03	14.72	--	--	--	--
MW-102	6-16	18.89	--	--	8.53	10.36	--	--	8.01	10.88	--	--	7.68	11.21	--	--	--	--
MW-103	6-16	19.47	--	--	11.79	7.68	--	--	11.22	8.25	--	--	10.96	8.51	--	--	--	--
MW-104	5-15	17.67	--	--	10.24	7.43	--	--	9.64	8.03	--	--	9.5	8.17	--	--	--	--
MW-105	19-29	38.84	--	--	--	--	--	--	21.31	17.53	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	11.71	14.62	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	3.61	11.02	--	--	--	--
MW-108	2 - 12	12.74	--	--	4.72	8.02	--	--	4.34	8.4	--	--	4.09	8.65	--	--	--	--
MW-109	3 - 13	24.12	--	--	12.15	11.97	--	--	11.37	12.75	--	--	10.79	13.33	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	2.61	12.97	--	--	--	--
MW-111	4 - 14	18.95	--	--	11.6	7.35	--	--	11.01	7.94	--	--	10.96	7.99	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	12.30	5.48	12.70	5.08	12.72	5.06	12.80	4.98	13.11	4.67	--	--	12.86	4.92	12.39	5.39
MW-113	10-20	26.16	--	--	12.11	14.05	--	--	11.73	14.43	--	--	11.42	14.74	--	--	--	--
MW-114	7-17	29.43	--	--	13.70	15.73	--	--	12.24	17.19	--	--	12.05	17.38	--	--	--	--
MW-115	10-25	27.15	--	--	18.51	8.64	--	--	17.76	9.39	--	--	17.51	9.64	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	9.06	12.88	--	--	14.39	7.55	--	--	13.63	8.31	--	--	--	--
MW-117T	35 - 45	21.87	--	--	15.58	6.29	--	--	15.19	6.68	--	--	14.78	7.09	--	--	--	--
MW-117D	60 - 70	21.78	--	--	15.81	5.97	--	--	15.09	6.69	--	--	14.71	7.07	--	--	--	--
MW-118S	3 - 14	15.52	--	--	9.66	5.86	--	--	9.41	6.11	--	--	9.01	6.51	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	10.30	5	--	--	10.12	5.18	--	--	9.94	5.36	--	--	--	--
MW-118D	70 - 80	15.15	--	--	10.11	5.04	10.03	5.12	10.00	5.15	10.73	4.42	9.82	5.33	--	--	10.20	4.95
MW-119S	5 - 20	11.74	--	--	5.14	6.6	--	--	4.70	7.04	--	--	4.31	7.43	--	--	--	--
MW-119T	42 - 47	11.67	--	--	6.50	5.17	--	--	6.25	5.42	--	--	6.11	5.56	--	--	--	--
MW-120S	5 - 20	12.54	--	--	4.78	7.76	--	--	4.26	8.28	--	--	4.19	8.35	--	--	--	--
MW-120D	28 - 38	12.45	--	--	3.87	8.58	--	--	3.40	9.05	--	--	4.41	8.04	--	--	--	--
MW-121S	5 - 20	12.44	--	--	7.26	5.18	--	--	6.93	5.51	--	--	5.95	6.49	--	--	--	--
MW-121D	32 - 47	12.81	--	--	7.69	5.12	7.55	5.26	7.41	5.4	8.13	4.68	7.35	5.46	--	--	7.27	5.54
MW-122	4 - 16	16.42	13.16	3.26	13.1	3.32	13.16	3.26	13.14	3.28	13.12	3.3	13.12	3.30	--	--	13.04	3.38
GEO-1	5 - 20	25.88	--	--	--	--	--	--	11.50	14.38	--	--	11.19	14.69	--	--	--	--
GEO-2	5 - 20	26.54	--	--	11.81	14.73	--	--	12.19	14.35	--	--	11.99	14.55	--	--	--	--
GEO-3	5 - 20	25.64	--	--	12.21	13.43	--	--	11.57	14.07	--	--	11.10	14.54	--	--	--	--
GEO-4	4 - 19	21.69	--	--	11.98	9.71	--	--	11.29	10.4	--	--	11.09	10.6	--	--	--	--
GEO-5	5 - 20	20.14	--	--	11.18	8.96	--	--	10.45	9.69	--	--	10.25	9.89	--	--	--	--
GEO-6	5 - 20	17.62	--	--	9.54	8.08	--	--	8.56	9.06	--	--	8.30	9.32	--	--	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	13.53	10.74	--	--	13.13	11.14	--	--	12.95	11.32	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	12.00	10.31	--	--	11.43	10.88	--	--	11.23	11.08	--	--	--	--
MW201	11-21	27.51	--	--	13.43	14.08	--	--	13.15	14.36	--	--	12.97	14.54	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	13.54	14.28	--	--	13.32	14.50	--	--	--	--
MW203	6-18	21.80	--	--	13.85	7.95	--	--	13.15	8.65	--	--	12.92	8.88	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 13 and Remedial Monitoring Report No. 28
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/1/15		4/17/15		11/19/15		4/27/16		11/21/16		4/14/17		11/8/17	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6-16	18.89	6.99	11.9	--	--	--	--	8.02	10.87	--	--	--	--	--	--
MW-103	6-16	19.47	10.43	9.04	--	--	--	--	11.49	7.98	--	--	--	--	--	--
MW-104	5-15	17.67	8.04	9.63	--	--	--	--	10.63	7.04	--	--	9.05	8.62	--	--
MW-105	19-29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	4.49	10.14	--	--	4.51	10.12	--	--
MW-108	2 - 12	12.74	3.31	9.43	--	--	--	--	4.11	8.63	--	--	3.78	8.96	--	--
MW-109	3 - 13	24.12	9.61	14.51	--	--	--	--	11.25	12.87	--	--	9.86	14.26	--	--
MW-110	3 - 13	15.58	0.60	14.98	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	10.80	8.15	--	--	--	--	11.50	7.45	--	--	Dry	Dry	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	6.44	11.72	--	--
MW-112a	4-19	17.78	--	--	12.86	4.92	--	--	11.14	6.64	13.12	4.66	12.88	4.90	12.12	5.66
MW-113	10-20	26.16	10.64	15.52	--	--	--	--	11.65	14.51	--	--	10.83	15.33	--	--
MW-114	7-17	29.43	10.06	19.37	--	--	--	--	12.45	16.98	--	--	10.70	18.73	--	--
MW-115	10-25	27.15	16.50	10.65	--	--	--	--	18.23	8.92	--	--	17.33	9.82	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	9.34	4.11	--	--	9.18	4.27	--	--
MW-117S	5 - 20	21.94	9.66	12.28	--	--	--	--	14.09	7.85	--	--	12.49	9.45	--	--
MW-117T	35 - 45	21.87	13.95	7.92	--	--	--	--	15.59	6.28	--	--	14.36	7.51	--	--
MW-117D	60 - 70	21.78	13.88	7.90	--	--	--	--	--	--	--	--	12.93	8.85	--	--
MW-118S	3 - 14	15.52	8.04	7.48	--	--	--	--	9.30	6.22	--	--	8.37	7.15	--	--
MW-118T	39.5 - 49.5	15.30	9.63	5.67	--	--	--	--	10.37	4.93	--	--	9.80	5.5	--	--
MW-118D	70 - 80	15.15	9.47	5.68	--	--	11.99	3.16	10.20	4.95	10.42	4.73	9.61	5.54	10.27	4.88
MW-119S	5 - 20	11.74	4.16	7.58	--	--	--	--	4.64	7.10	--	--	4.43	7.31	--	--
MW-119T	42 - 47	11.67	5.80	5.87	--	--	--	--	6.43	5.24	--	--	5.95	5.72	--	--
MW-120S	5 - 20	12.54	3.54	9.00	--	--	--	--	3.16	9.38	--	--	3.91	8.63	--	--
MW-120D	28 - 38	12.45	3.10	9.35	--	--	--	--	3.68	8.77	--	--	3.19	9.26	--	--
MW-121S	5 - 20	12.44	6.77	5.67	--	--	--	--	--	--	--	--	7.73	4.71	--	--
MW-121D	32 - 47	12.81	7.01	5.80	--	--	8.83	3.98	--	--	7.85	4.96	7.17	5.64	7.75	5.06
MW-122	4 - 16	16.42	13.15	3.27	--	--	13.23	3.19	13.19	3.23	13.21	3.21	13.18	3.24	13.17	3.25
GEO-1	5 - 20	25.88	10.69	15.19	--	--	--	--	11.39	14.49	--	--	10.75	15.13	--	--
GEO-2	5 - 20	26.54	11.34	15.20	--	--	--	--	12.18	14.36	--	--	11.51	15.03	--	--
GEO-3	5 - 20	25.64	9.92	15.72	--	--	--	--	--	--	--	--	10.25	15.39	--	--
GEO-4	4 - 19	21.69	10.17	11.52	--	--	--	--	11.61	10.08	--	--	10.59	11.1	--	--
GEO-5	5 - 20	20.14	9.29	10.85	--	--	--	--	10.94	9.20	--	--	9.81	10.33	--	--
GEO-6	5 - 20	17.62	7.84	9.78	--	--	--	--	9.72	7.90	--	--	8.42	9.2	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.41	11.86	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	10.55	11.76	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11-21	27.51	12.40	15.11	--	--	--	--	13.15	14.36	--	--	--	--	--	--
MW202	10.5-20.5	27.82	12.93	14.89	--	--	--	--	13.53	14.29	--	--	--	--	--	--
MW203	6-18	21.80	12.05	9.75	--	--	--	--	13.93	7.87	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

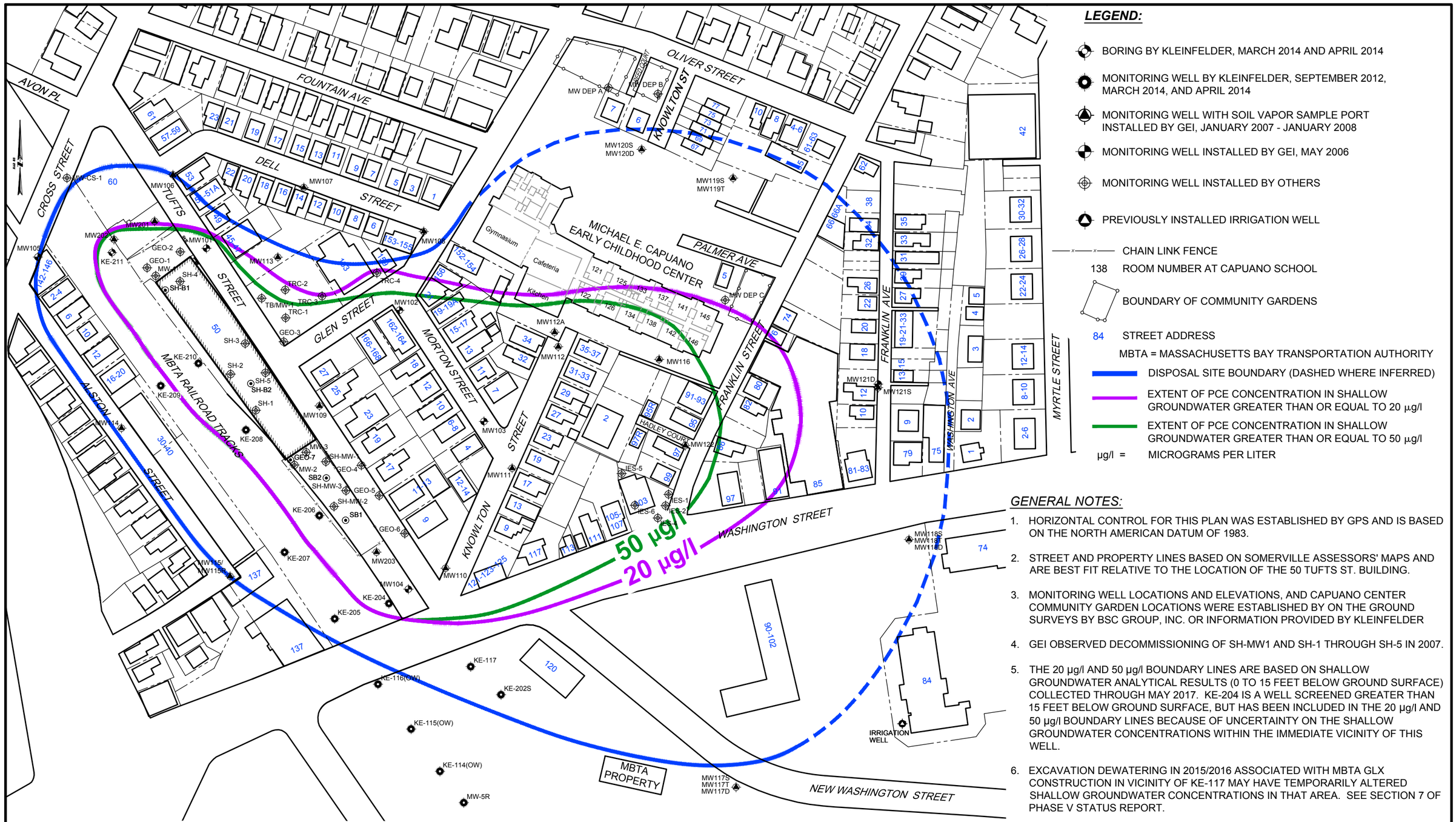
Figures

This Image provided by MassGIS is from U.S.G.S.
Topographic 7.5 X 15 Minute Series
Boston North, MA Quadrangle, 1985.
Datum is National Geodetic Vertical Datum of 1929 (NGVD29).
Contour Interval is 3 Meters.

MASSACHUSETTS
QUADRANGLE LOCATION

Phase V Status Report No. 13 and Remedial Monitoring Report No. 28 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	February 2018 Fig. 1-1

N:\04516\#Drafting\04516-3\Phase V SR 13\045163 PhV SR13 Fig 1-1



LEGEND:

- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l
- µg/l = MICROGRAMS PER LITER

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. THE 20 µg/l AND 50 µg/l BOUNDARY LINES ARE BASED ON SHALLOW GROUNDWATER ANALYTICAL RESULTS (0 TO 15 FEET BELOW GROUND SURFACE) COLLECTED THROUGH MAY 2017. KE-204 IS A WELL SCREENED GREATER THAN 15 FEET BELOW GROUND SURFACE, BUT HAS BEEN INCLUDED IN THE 20 µg/l AND 50 µg/l BOUNDARY LINES BECAUSE OF UNCERTAINTY ON THE SHALLOW GROUNDWATER CONCENTRATIONS WITHIN THE IMMEDIATE VICINITY OF THIS WELL.
6. EXCAVATION DEWATERING IN 2015/2016 ASSOCIATED WITH MBTA GLX CONSTRUCTION IN VICINITY OF KE-117 MAY HAVE TEMPORARILY ALTERED SHALLOW GROUNDWATER CONCENTRATIONS IN THAT AREA. SEE SECTION 7 OF PHASE V STATUS REPORT.

0 150 300

SCALE, FEET

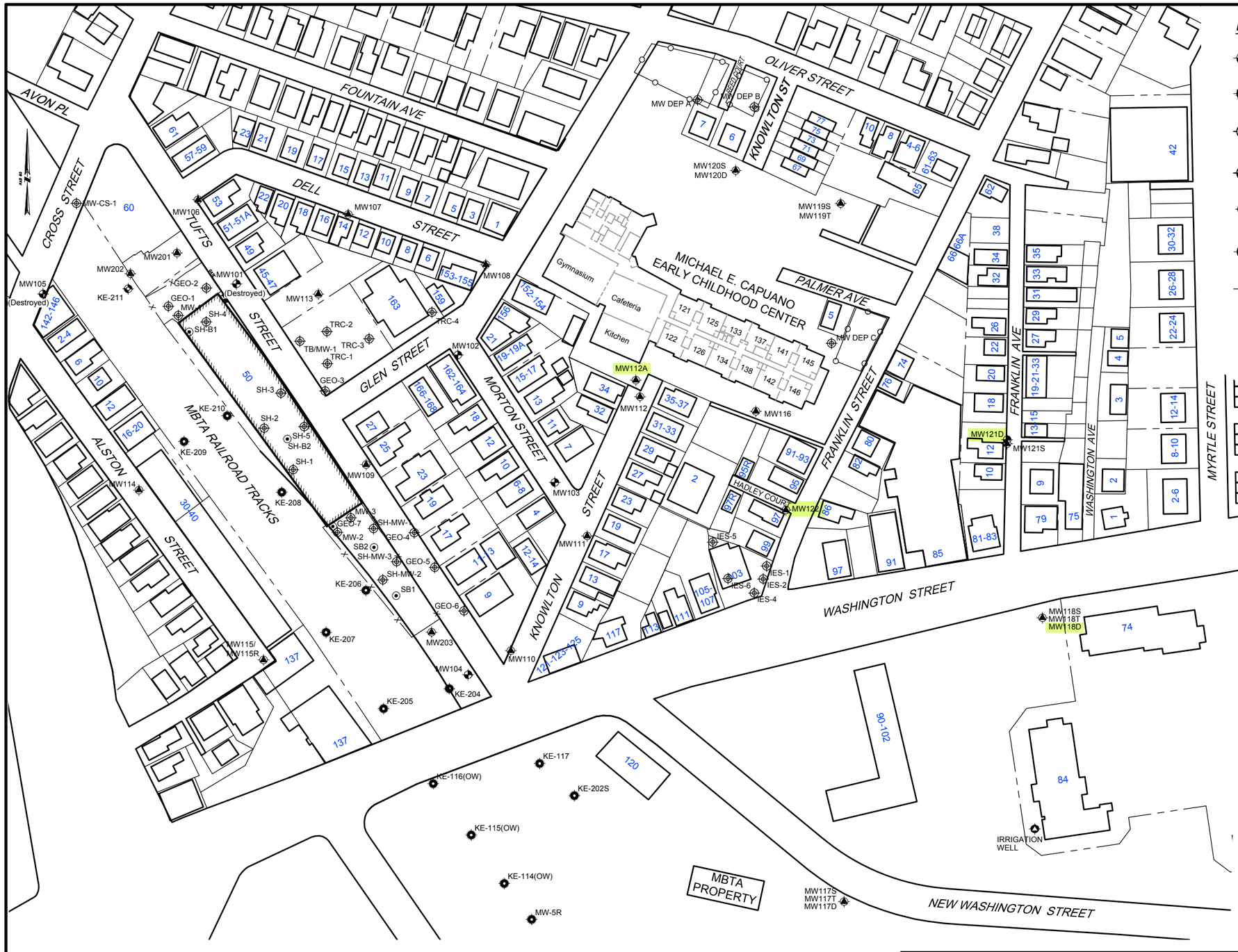
Phase V Status Report No. 13 and
Remedial Monitoring Report No. 28
50 Tufts Street Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

DISPOSAL SITE MAP
AND SITE BOUNDARY

Project 04516-3 | February 2018 | Fig. 1-2

N:\04516\#Drafting\04516-3\Phase V SR 13\045163 PhV SR13 Fig 1-2



LEGEND:

- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- —x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- MONITORING WELL SAMPLED BY GEI DURING THIS REPORTING PERIOD

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET PROPERTY LINES, AND BUILDINGS ARE BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

Phase V Status Report No. 13 and
Remedial Monitoring Report No. 28
50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

MONITORING WELL LOCATIONS

Project 04516-3 | February 2018 | Fig. 2-1

N:\04516\#Drafting\04516-3\Phase V SR 13\045163 PhV SR13 Fig 2-1

LEGEND:

SOIL VAPOR SAMPLED

INDOOR AIR SAMPLED

0 60 120 240

SCALE, FEET

Phase V Status Report No. 13 and
Remedial Monitoring Report No. 28
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SUB-SLAB SOIL VAPOR AND INDOOR AIR SAMPLING

Project 04516-3 | February 2018 | Fig. 2-2

N:\04516\20.0 GIS Data\Map_Files\Phase IV Status Fig 2-2 IA and SV sampling.mxd

LEGEND:

EPMM STATUS

EPMM INSTALLED (ACTIVE)

EPMM INSTALLED (OTHER EPMM)

N

0 45 90 180

SCALE, FEET

Phase V Status Report No. 13 and Remedial Monitoring Report No. 28 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM INSTALLATION PROGRESS
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	February 2018 Fig. 4-1

N:\04516\20.0 GIS Data\Map_Files\Tufts_St_GIS_Master_Map.mxd

Preferred Criteria For:

Option 1 (SSDS):

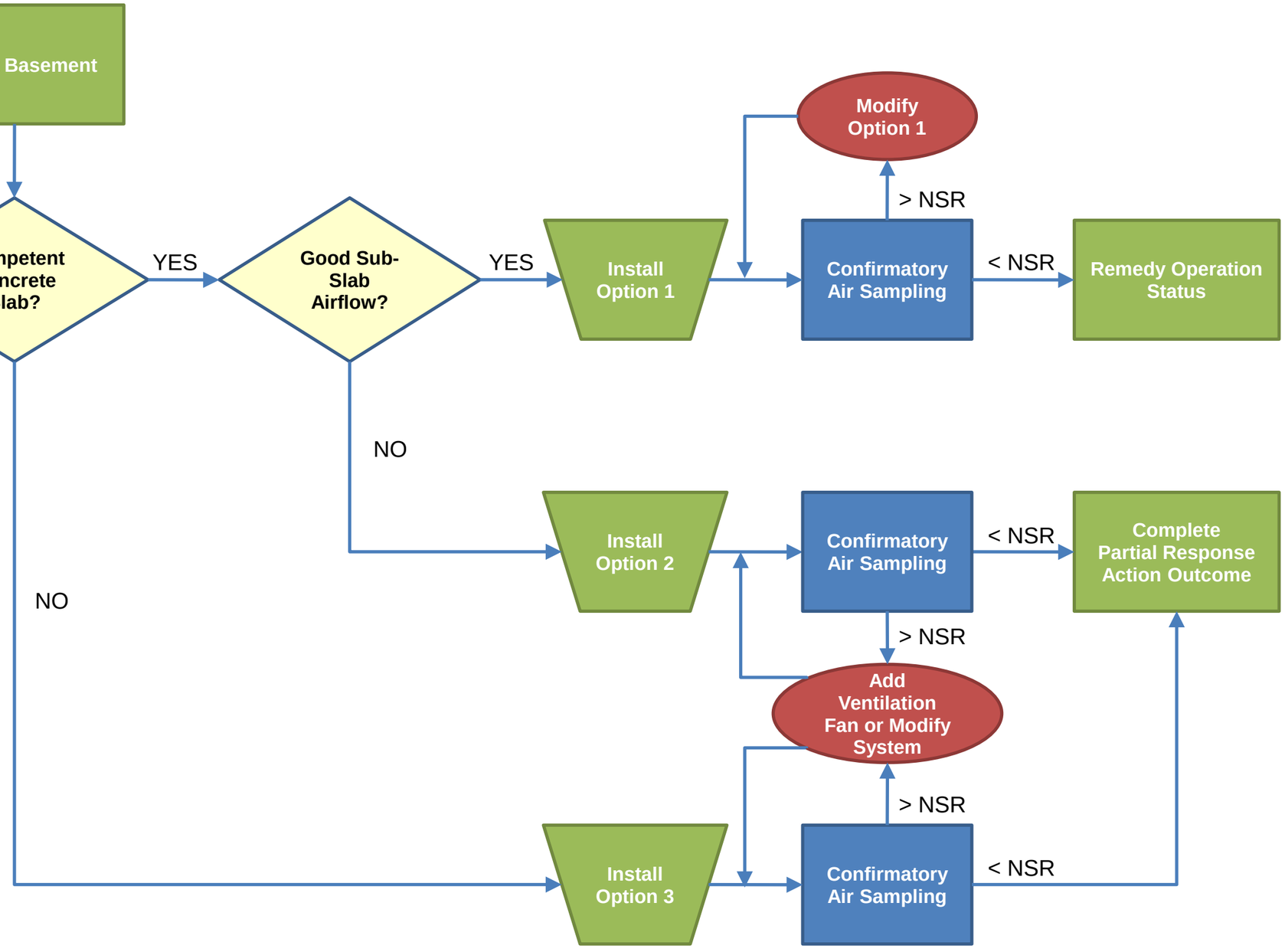
1. Competent concrete slab
2. Poured concrete foundation
3. Granular sub-grade (good sub-slab air flow)

Option 2 (Vapor Trench):

1. Competent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)

Option 3 (New Slab Installation):

1. Incompetent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)



NSR = No Significant Risk

Phase V Status Report No. 13 and Remedial Monitoring Report No. 28 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM MITIGATION FLOW CHART
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	February 2018 Fig. 4-2

CROSS STREET
TUFTS STREET
DELL STREET
GLEN STREET
MORTON STREET
KNOWLTON STREET
WASHINGTON STREET
PALMER AVE
FRANKLIN STREET
FRANKLIN AVE
WASHINGTON AVE
MYRTLE STREET
HADLEY COURT
MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER
Gymnasium
Cafeteria
Kitchen
N

LEGEND:

PERMANENT SOLUTION STATUS

- PERMANENT SOLUTION WITH CONDITIONS PARTIAL STATEMENT SUBMITTED
- PERMANENT SOLUTION WITHOUT CONDITIONS PARTIAL STATEMENT SUBMITTED
- REMEDY OPERATION STATUS
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)

0 50 100 200

SCALE, FEET

Phase V Status Report No. 13 and
Remedial Monitoring Report No. 28
50 Tufts Street, Somerville, Massachusetts

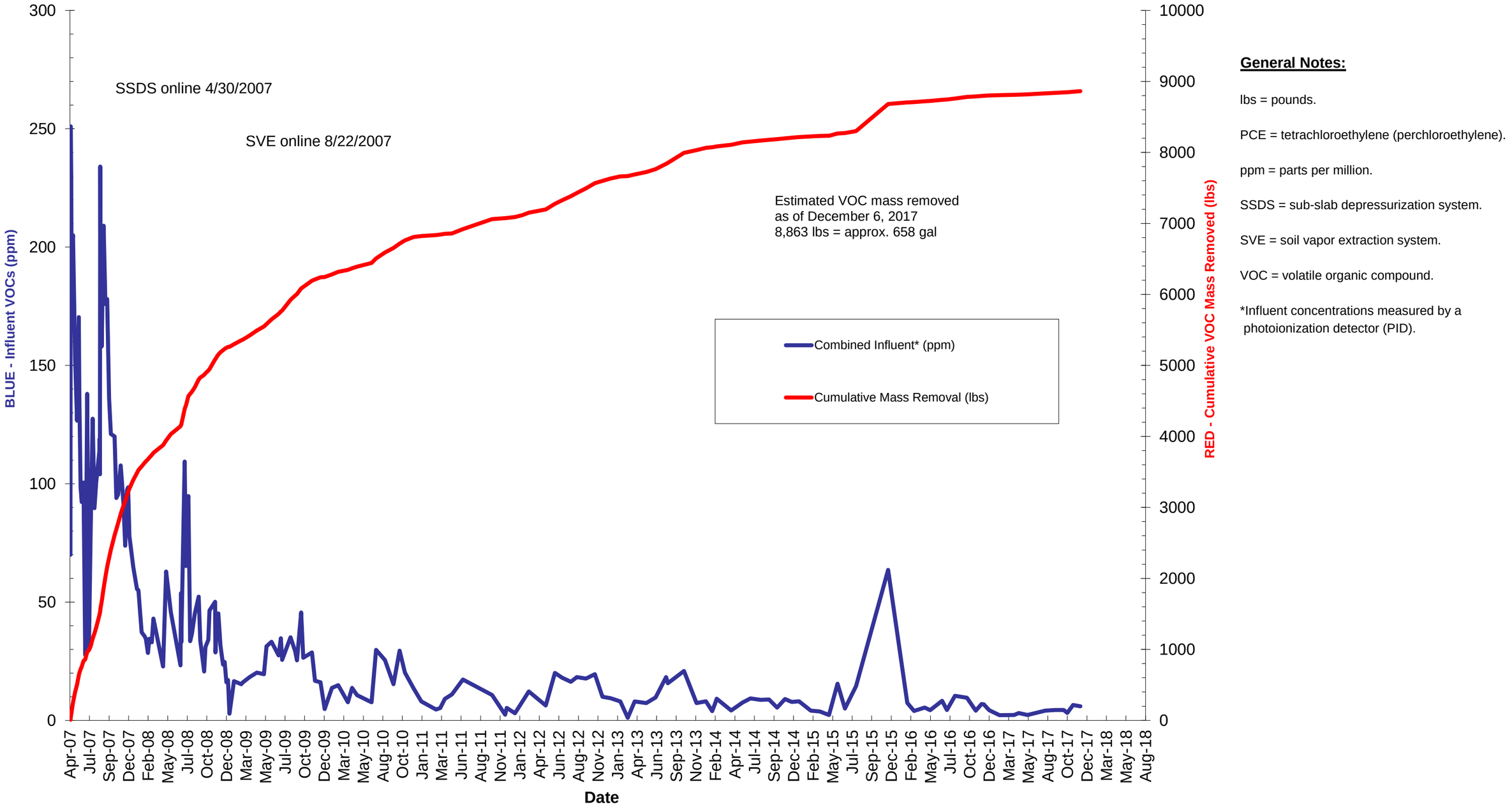
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

PERMANENT SOLUTION STATUS

Project 04516-3 | February 2018 | Fig. 4-3

N:\04516\20.0 GIS Data\Map_Files\Tufts_St_RAO_Tracking (for reports).mxd



General Notes:

lbs = pounds.

PCE = tetrachloroethylene (perchloroethylene).

ppm = parts per million.

SSDS = sub-slab depressurization system.

SVE = soil vapor extraction system.

VOC = volatile organic compound.

*Influent concentrations measured by a photoionization detector (PID).

Phase V Status Report No. 13 and Remedial Monitoring Report No. 28 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	COMBINED INFLUENT VOC CONCENTRATIONS AND CUMULATIVE VOC REMOVAL
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	February 2018 Fig. 6-1

Appendix A

MassDEP Transmittal Forms BWSC-108, BWSC-108A, BWSC-108B and eDEP Transmittal Receipts

Comprehensive Response Action Transmittal Forms:

- **BWSC-108A 1 of 5 (50 Tufts SSDS)**
- **BWSC-108B 1 of 5 (50 Tufts SSDS)**
- **BWSC-108A 2 of 5 (50 Tufts SVE)**
- **BWSC-108B 2 of 5 (50 Tufts SVE)**
- **BWSC-108A 3 of 5 (Capuano Center)**
- **BWSC-108B 3 of 5 (Capuano Center)**
- **BWSC-108A 4 of 5 (Residences)**
- **BWSC-108A 5 of 5 (MNA)**

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 23246

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 021454129

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☑ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☑ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☑ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☑ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☑ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: 5

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☑ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: 7817214012 5. Ext.: 6. Email: igladstone@geiconsultants.com

7. Signature:

8. Date: (mm/dd/yyyy)

9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: TIMOTHY 4. Last Name: COSGRAVE

5. Street: 68 JONSPIN RD 6. Title: DIRECTOR EH&S

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018871090

10. Telephone: 9786588888 11. Ext: 4332 12. Email:

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☑ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☑ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@state.ma.us.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT
Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: _____ (Signature) 3. Title: DIRECTOR EH&S

4. For: UNIFIRST CORPORATION (Name of person or entity recorded in Section D) 5. Date: _____ (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2017 (mm/dd/yyyy) To: 12/15/2017 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☐ ii. Quarterly
- ☐ iii. Annually
- ☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☑ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 322 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☑ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 1 b. Total Number of Days of Unscheduled Shutdowns: 21

c. Reason(s) for Unscheduled Shutdowns: BLOWER SHUTDOWN

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 1 b. Total Number of Days of Scheduled Shutdowns: 0.1

c. Reason(s) for Scheduled Shutdowns: CARBON CHANGE FOR ~3 HOURS

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

LESS THAN 95% OFF-GAS TREATMENT REMOVAL PRIOR TO DECEMBER 2017 CARBON CHANGE

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -B

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3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	07/24/2017	TOTAL VOCS	4.4		0.0	☑	0.2	PPMV	YES
SSDS	08/31/2017	TOTAL VOCS	5.6		0.2	☐	0.3	PPMV	YES
SSDS	10/03/2017	TOTAL VOCS	5.3		0.0	☑	0.3	PPMV	YES
SSDS	10/17/2017	TOTAL VOCS	6.6		0.0	☑	0.3	PPMV	YES
SSDS	11/08/2017	TOTAL VOCS	9.2		0.5	☐	0.5	PPMV	YES
SSDS	12/06/2017	TOTAL VOCS	7.5		1.4	☐	0.3	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☑ a. Active Remedial System: (check all that apply)

☐ i. NAPL Recovery ☑ ii. Soil Vapor Extraction/Bioventing ☐ iii. Vapor-phase Carbon Adsorption
☐ iv. Groundwater Recovery ☐ v. Dual/Multi-phase Extraction ☐ vi. Aqueous-phase Carbon Adsorption
☐ vii. Air Stripping ☐ viii. Sparging/Biosparging ☐ ix. Cat/Thermal Oxidation
☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
☐ i. To the Subsurface ☐ ii. To Groundwater (Injection) ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
☐ i. Reactive Wall ☐ ii. Natural Attenuation ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
☐ a. Sanitary Sewer/POTW
☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
☐ d. Drinking Water Supply
☐ e. Surface Water (including Storm Drains)
☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2017 (mm/dd/yyyy) To: 12/15/2017 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
☐ a. System Startup: (if applicable)
☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
☐ i. Monthly
☐ ii. Quarterly
☐ iii. Annually
☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☑ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit
☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 322 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☑ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 1 b. Total Number of Days of Unscheduled Shutdowns: 21

c. Reason(s) for Unscheduled Shutdowns: BLOWER SHUTDOWN

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 1 b. Total Number of Days of Scheduled Shutdowns: 0.1

c. Reason(s) for Scheduled Shutdowns: CARBON CHANGE FOR ~3 HOURS

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

LESS THAN 95% OFF-GAS TREATMENT REMOVAL PRIOR TO DECEMBER 2017 CARBON CHANGE

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SVE	07/24/2017	TOTAL VOCS	4.4		0.0	☑	0.2	PPMV	YES
SVE	08/31/2017	TOTAL VOCS	5.6		0.2	☐	0.3	PPMV	YES
SVE	10/03/2017	TOTAL VOCS	5.3		0.0	☑	0.3	PPMV	YES
SVE	10/17/2017	TOTAL VOCS	6.6		0.0	☑	0.3	PPMV	YES
SVE	11/08/2017	TOTAL VOCS	9.2		0.5	☐	0.5	PPMV	YES
SVE	12/06/2017	TOTAL VOCS	7.5		1.4	☐	0.3	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2017 (mm/dd/yyyy) To: 12/15/2017 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☑ ii. Quarterly
- ☐ iii. Annually
- ☐ iv. Other Describe:

☑ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 77 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

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Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	07/31/2017	TOTAL VOCS	0.0			☑	8.0	PPMV	YES
SSDS	11/07/2017	TOTAL VOCS	0.7			☑	8.0	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 4 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2017 (mm/dd/yyyy) To: 12/15/2017 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☑ ii. Quarterly
- ☐ iii. Annually
- ☐ iv. Other Describe:

☑ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 182 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 87 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 1 b. Total Number of Days of Scheduled Shutdowns: 7

c. Reason(s) for Scheduled Shutdowns: SHUTDOWN CLOSURE SAMPLING (31 - 33 KNOWLTON)

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 5 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☑ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☑ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☐ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 6/16/2017 (mm/dd/yyyy) To: 12/15/2017 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☐ ii. Quarterly
- ☑ iii. Annually
- ☐ iv. Other Describe:

☑ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☐ 2. MCP Performance Standard MCP Citations(s):

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: _____ b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): _____ f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☐ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☐ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☑ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Appendix B

Property Owner Notification Letters

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

November 15, 2017
Project 04516-3

Mr. John Mostyn, Esq.
Corcoran Jennison Management
150 Mount Vernon Street, Suite 500
Boston, MA 02125-3125

Dear Mr. Mostyn:

Re: Groundwater Sampling
84 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at your property located at 84 Washington Street in Somerville, Massachusetts. We are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP), following groundwater sampling conducted on November 8, 2017.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Heen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

JTN:jam
Enclosure
c: Timothy Cosgrave, UniFirst Corporation
Vital V. Deshpande, City of Somerville
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Mr. John Mostyn, Esq.

2. Street Address: Corcoran Jennison Management, 150 Mount Vernon Street, Sui

City/Town: Dorchester, MA Zip Code: 02125-3125

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: 84 Washington Street (Cobble Hill Apartments)

City/Town: Somerville, MA Zip Code: 02145-4400

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other Apartment Complex (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

November 15, 2017
Project 04516-3

Mr. Vital V. Deshpande
Environmental Coordinator
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Mr. Deshpande:

Re: Groundwater Sampling
Certain "Public Ways"
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling on certain public ways in Somerville, Massachusetts. We are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP), following groundwater sampling conducted on November 8, 2017.

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

JTN:jam
Enclosure
c: Timothy Cosgrave, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4129

B. This notice is being provided to the following party:

1. Name: Mr. Vithal V. Deshpande, City of Somerville
2. Street Address: City Hall Annex, 50 Evergreeen Avenue

City/Town: Somerville, MA Zip Code: 02145-2819

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling ~~will be~~/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling ~~will be~~/has been conducted:

1. Street Address: Somerville City Street

City/Town: Somerville, MA Zip Code: 02145

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☐ commercial ☐ industrial ☐ school/playground ☑ Other City Streets (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Groundwater Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP
Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive
City/Town: Woburn, MA Zip Code: 01801-3341
Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Appendix C

Laboratory Testing Reports

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

GEI Consultants, Inc.

Tufts Street, Somerville, MA

045163

SGS Accutest Job Number: JC55177

Sampling Date: 11/08/17

Report to:

GEI Consultants, Inc.

jneff@geiconsultants.com

ATTN: Jesse Neff

Total number of pages in report: **19**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.

SGS Accutest is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

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Sample Summary

GEI Consultants, Inc.

Job No: JC55177

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC55177-1	11/08/17	13:15	JN	11/09/17	AQ	Ground Water	045163-MW118D
JC55177-2	11/08/17	10:00	JN	11/09/17	AQ	Ground Water	045163-MW121D
JC55177-3	11/08/17	10:55	JN	11/09/17	AQ	Ground Water	045163-MW122

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	GEI Consultants, Inc.	**Job No**	JC55177
Site:	Tufts Street, Somerville, MA	**Report Date**	11/29/2017 10:47:28 A

On 11/09/2017, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 3.9 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC55177 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V1A7477

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC54745-7DUP, JC54745-8MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC55177-1 for 2-Butanone (MEK): Response factor for this compound is below 0.05 in the inital and continuing calibrations. The RPD for BSD is outside in house QC limit.
- V1A7477-BSD for Acetone: Outside in house control limits.
- JC55177-1 for 1,1,1-Trichloroethane: Associated CCV outside of control limits high, sample was ND.
- JC55177-1 for 1,2-Dichloroethane: Associated CCV outside of control limits high, sample was ND.
- JC55177-1 for 2,2-Dichloropropane: Associated CCV outside of control limits high, sample was ND.
- JC55177-1 for Carbon tetrachloride: Associated CCV outside of control limits high, sample was ND.
- JC55177-1 for Tetrahydrofuran: Response factor for this compound is below 0.05 in the inital and continuing calibrations.
- JC55177-1 for Acetone: Response factor for this compound is below 0.05 in the initial and continuing calibrations. Associated CCV outside of control limits low. The RPD for the associated BSD is outside in house QC limits.
- V1A7477-BSD for 2-Butanone (MEK): Outside in house control limits.

Matrix: AQ **Batch ID:** V1A7478

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC55048-3MS, JC55048-3MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 2,2-Dichloropropane are outside in house control limits.
- Matrix Spike Duplicate Recovery(s) for 2,2-Dichloropropane are outside in house control limits.
- Matrix Spike/Matrix Spike Duplicate Recovery(s) for 1,2,4-Trichlorobenzene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- JC55177-3 for Carbon tetrachloride: Associated CCV outside of control limits high, sample was ND.
- V1A7478-BSD for Acetone: Outside in house control limits.
- JC55177-3 for 2,2-Dichloropropane: Associated CCV outside of control limits high, sample was ND.
- V1A7478-BSD for 2-Butanone (MEK): Outside in house control limits.
- JC55177-3 for 2-Butanone (MEK): This compound in BS is outside in house QC limits bias low.
- JC55177-3 for Acetone: This compound is outside the MCP limits in the associated BS biased low, Response factor for this compound is below 0.05 in the initial and continuing calibrations.

Matrix: AQ **Batch ID:** V1A7479

- All samples were analyzed within the recommended method holding time.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V1A7479

- Sample(s) JC55048-2DUP, JC55280-6MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC55177-2 for Carbon tetrachloride: Associated CCV outside of control limits high, sample was ND.
- JC55177-2 for 2-Butanone (MEK): Response factor for this compound is below 0.05 in the inital and continuing calibrations.
- JC55177-2 for Acetone: Response factor for this compound is below 0.05 in the inital and continuing calibrations.
- JC55177-2 for 1,2-Dibromo-3-chloropropane: Associated CCV outside of control limits high, sample was ND.
- JC55177-2 for 1,2-Dichloroethane: Associated CCV outside of control limits high, sample was ND.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC55177
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 11/08/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC55177-1	**045163-MW118D**					
Chloroethane		3.4	1.0		ug/l	SW846 8260C
1,1-Dichloroethane		27.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		5.0	1.0		ug/l	SW846 8260C
Tetrachloroethene		2.7	1.0		ug/l	SW846 8260C
Trichloroethene		1.7	1.0		ug/l	SW846 8260C
Vinyl chloride		2.4	1.0		ug/l	SW846 8260C
JC55177-2	**045163-MW121D**					
1,1-Dichloroethane		47.6	1.0		ug/l	SW846 8260C
1,1-Dichloroethene		15.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		119	1.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether		1.4	1.0		ug/l	SW846 8260C
Tetrachloroethene		242	10		ug/l	SW846 8260C
Trichloroethene		310	10		ug/l	SW846 8260C
Vinyl chloride		10.4	1.0		ug/l	SW846 8260C
JC55177-3	**045163-MW122**					
1,1-Dichloroethane		14.8	1.0		ug/l	SW846 8260C
1,1-Dichloroethene		3.9	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		50.0	1.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether		1.1	1.0		ug/l	SW846 8260C
Tetrachloroethene		579	10		ug/l	SW846 8260C
Toluene		20.7	1.0		ug/l	SW846 8260C
Trichloroethene		63.3	1.0		ug/l	SW846 8260C
Vinyl chloride		1.3	1.0		ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	045163-MW118D		
Lab Sample ID:	JC55177-1	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A176055.D	1	11/15/17 19:23	GA	n/a	n/a	V1A7477
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone [a]	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK) [b]	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride [c]	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	3.4	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	27.4	1.0	ug/l	
107-06-2	1,2-Dichloroethane [c]	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	5.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118D		
Lab Sample ID:	JC55177-1	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane [c]	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	2.7	1.0	ug/l	
109-99-9	Tetrahydrofuran [d]	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane [c]	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	1.7	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	2.4	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118D		
Lab Sample ID:	JC55177-1	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-120%
17060-07-0	1,2-Dichloroethane-D4	109%		81-124%
2037-26-5	Toluene-D8	93%		80-120%
460-00-4	4-Bromofluorobenzene	93%		80-120%

(a) Response factor for this compound is below 0.05 in the initial and continuing calibrations. Associated CCV outside of control limits low. The RPD for the associated BSD is outside in house QC limits.
(b) Response factor for this compound is below 0.05 in the inital and continuing calibrations. The RPD for BSD is outside in house QC limit.
(c) Associated CCV outside of control limits high, sample was ND.
(d) Response factor for this compound is below 0.05 in the inital and continuing calibrations.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121D		
Lab Sample ID:	JC55177-2	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A176091.D	1	11/16/17 17:04	GA	n/a	n/a	V1A7479
Run #2	1A176092.D	10	11/16/17 17:33	GA	n/a	n/a	V1A7479

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone [a]	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK) [a]	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride [b]	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropan [b]	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	47.6	1.0	ug/l	
107-06-2	1,2-Dichloroethane [b]	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	15.3	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	119	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121D		
Lab Sample ID:	JC55177-2	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.4	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	242 [c]	10	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	310 [c]	10	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	10.4	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121D		
Lab Sample ID:	JC55177-2	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	101%	80-120%
17060-07-0	1,2-Dichloroethane-D4	118%	117%	81-124%
2037-26-5	Toluene-D8	91%	91%	80-120%
460-00-4	4-Bromofluorobenzene	94%	93%	80-120%

(a) Response factor for this compound is below 0.05 in the inital and continuing calibrations.
(b) Associated CCV outside of control limits high, sample was ND.
(c) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW122		
Lab Sample ID:	JC55177-3	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A176080.D	1	11/16/17 09:34	GA	n/a	n/a	V1A7478
Run #2	1A176090.D	10	11/16/17 16:34	GA	n/a	n/a	V1A7479

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone [a]	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK) [b]	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride [c]	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	14.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	3.9	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	50.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW122		
Lab Sample ID:	JC55177-3	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane [c]	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.1	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	579 [d]	10	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	20.7	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	63.3	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	1.3	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW122		
Lab Sample ID:	JC55177-3	**Date Sampled:**	11/08/17
Matrix:	AQ - Ground Water	**Date Received:**	11/09/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	101%	80-120%
17060-07-0	1,2-Dichloroethane-D4	103%	117%	81-124%
2037-26-5	Toluene-D8	93%	91%	80-120%
460-00-4	4-Bromofluorobenzene	96%	95%	80-120%

(a) This compound is outside the MCP limits in the associated BS biased low, Response factor for this compound is below 0.05 in the initial and continuing calibrations.
(b) This compound in BS is outside in house QC limits bias low.
(c) Associated CCV outside of control limits high, sample was ND.
(d) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Chain-of-Custody Record

GW

Laboratory: ACCUTEST

Laboratory Job # (Lab use only) JC55177

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tufts St.
Project Location: Somerville, MA
Project Number: 045163
Project Manager: Joe Roman
(o) 781-721-4136 (c) 619-977-2951

Send Report to: Jessica Englehart

Send EDD to: labdata@geiconsultants.com

Preservative

HCl

Analysis

Sample Handling

Samples Field Filtered: YES (NO) NA

Sampled Shipped With Ice: (YES) NO

MCP PRESUMPTIVE CERTAINTY REQUIRED – (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? (YES) NO NA

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs 8260	Sample Specific Remarks
-1	045163-MW118D	11/8/2017	13:15	GW	3	JTN	X	V174
-2	045163-MW121D	11/8/2017	10:00	GW	3	JTN	X	
-3	045163-MW122	11/8/2017	10:55	GW	3	JTN	X	

INITIAL ASSESSMENT JB/mH

LABEL VERIFICATION_____

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Relinquished by: (signature)	Date:	Time:	Received by: (signature)
1.	11-8 17	1530	1. GEI Sample Fridge
2. GEI Sample Fridge	11/9/17	1339	2. Jessica Englehart
3. Jessica Englehart	11/9/17	1339	3.
4.	11/09/17	17:45	4.
5.	11/9/17	17:45	5.
6.	11/10/17	12:01	6.

Turnaround Time (Business days):

Normal ___X___ Other _____

10-Day _____ 7-Day _____

5-Day _____ 3-Day _____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

SGS-ACCUTEST MARLBOR 11/8

Cooler # 256

3.0°C Ice Cooler

11/18/2013

JC55177: Chain of Custody
Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: JC55177 **Client:** _____ **Project:** _____

Date / Time Received: 11/9/2017 7:30:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.9);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

JC55177: Chain of Custody
Page 2 of 2

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

GEI Consultants, Inc.

Tufts Street, Somerville, MA

045163

SGS Accutest Job Number: JC55376

Sampling Date: 11/10/17

Report to:

GEI Consultants, Inc.

jneff@geiconsultants.com

ATTN: Jesse Neff

Total number of pages in report: **12**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

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Sample Summary

GEI Consultants, Inc.

Job No: JC55376

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC55376-1	11/10/17	10:30	GW	11/13/17	AQ	Ground Water	045163-MW112A

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	GEI Consultants, Inc.	**Job No**	JC55376
Site:	Tufts Street, Somerville, MA	**Report Date**	11/30/2017 2:44:19 P

On 11/13/2017, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 2.1 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC55376 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V3D5672

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC55151-3MS, JC55151-4DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V3D5674

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC55382-2MS, JC55382-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC55376-1 for 2-Butanone (MEK): Associated CCV outside of control limits low.
- JC55376-1 for 2-Hexanone: Associated CCV outside of control limits low.
- JC55376-1 for Tetrahydrofuran: Associated CCV outside of control limits low.
- JC55376-1 for Acetone: Associated CCV outside of control limits low. This compound is outside the MCP limits in the associated BS/BSD biased low.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC55376
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 11/10/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC55376-1	**045163-MW112A**					
1,1-Dichloroethane		88.1	2.0		ug/l	SW846 8260C
1,1-Dichloroethene		92.5	2.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		155	2.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether		56.0	2.0		ug/l	SW846 8260C
Tetrachloroethene		908	10		ug/l	SW846 8260C
1,1,1-Trichloroethane		11.4	2.0		ug/l	SW846 8260C
Trichloroethene		247	2.0		ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC55376-1	**Date Sampled:**	11/10/17
Matrix:	AQ - Ground Water	**Date Received:**	11/13/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D134084.D	2	11/22/17 16:36	JP	n/a	n/a	V3D5674
Run #2	3D134049.D	10	11/21/17 21:31	JP	n/a	n/a	V3D5672

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone [a]	ND	20	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
108-86-1	Bromobenzene	ND	2.0	ug/l	
74-97-5	Bromochloromethane	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
74-83-9	Bromomethane	ND	4.0	ug/l	
78-93-3	2-Butanone (MEK) [b]	ND	20	ug/l	
104-51-8	n-Butylbenzene	ND	4.0	ug/l	
135-98-8	sec-Butylbenzene	ND	4.0	ug/l	
98-06-6	tert-Butylbenzene	ND	4.0	ug/l	
75-15-0	Carbon disulfide	ND	4.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	4.0	ug/l	
106-43-4	p-Chlorotoluene	ND	4.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	4.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	ug/l	
75-34-3	1,1-Dichloroethane	88.1	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethene	92.5	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	155	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC55376-1	**Date Sampled:**	11/10/17
Matrix:	AQ - Ground Water	**Date Received:**	11/13/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	ug/l	
60-29-7	Ethyl Ether	ND	4.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	ug/l	
591-78-6	2-Hexanone [b]	ND	10	ug/l	
98-82-8	Isopropylbenzene	ND	2.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	4.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	56.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	10	ug/l	
74-95-3	Methylene bromide	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	ug/l	
91-20-3	Naphthalene	ND	10	ug/l	
103-65-1	n-Propylbenzene	ND	4.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	4.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	4.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethene	908 [c]	10	ug/l	
109-99-9	Tetrahydrofuran [b]	ND	20	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	11.4	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
79-01-6	Trichloroethene	247	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	4.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	4.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC55376-1	**Date Sampled:**	11/10/17
Matrix:	AQ - Ground Water	**Date Received:**	11/13/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	113%	80-120%
17060-07-0	1,2-Dichloroethane-D4	110%	107%	81-124%
2037-26-5	Toluene-D8	92%	92%	80-120%
460-00-4	4-Bromofluorobenzene	90%	87%	80-120%

(a) Associated CCV outside of control limits low. This compound is outside the MCP limits in the associated BS/BSD biased low.
(b) Associated CCV outside of control limits low.
(c) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Chain-of-Custody Record

GW

Laboratory: ACCUTEST

Laboratory Job # (Lab use only) JC55376

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tufts St.

Project Number: 045163

Project Location: Somerville, MA

Project Manager: Joe Roman
(o) 781-721-4136 (c) 619-977-2951

Send Report to: Jessica Englehart

Send EDD to: labdata@geiconsultants.com

Preservative

HCl

Analysis

VOCs 8260

Sample Handling

Samples Field Filtered
YES (NO) NA

Sampled Shipped With Ice
(YES) NO

MCP PRESUMPTIVE CERTAINTY REQUIRED – (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? (YES) NO NA

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs 8260	Sample Specific Remarks
-1	045163-MW112A	11/10/2017	10:30	GW	3	JTN	X	V199

INITIAL ASESSMENT JB/MH

LABEL VERIFICATION

SGS-ACCUTEST 11/13 MARLBOR

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Turnaround Time (Business days):

Normal ___X__ Other ____
10-Day ____ 7-Day ____
5-Day ____ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	11-10-17	1100	1. GEI Sample Fridge
Relinquished by: (signature) 2. GEI Sample Fridge	11/13/17	1224	2. Jessica Englehart
Relinquished by: (signature) 3. Jessica Englehart	11/13/17	1224	3.
Relinquished by: (signature) 4.	11/13/17	1745	4.

Custody Seal # 274 Cooler Temp: 1.2

11/17/17 2345

Thank you 11/14/17 1930

11/14/17 12:04

SGS Accutest Sample Receipt Summary

Job Number: JC55376 **Client:** _____ **Project:** _____

Date / Time Received: 11/13/2017 7:30:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (1.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

JC55376: Chain of Custody
Page 2 of 2

ANALYTICAL REPORT

Lab Number:	L1734400
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS ST
Project Number:	045163
Report Date:	10/03/17

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Project Name: TUFTS ST
Project Number: 045163

Lab Number: L1734400
Report Date: 10/03/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1734400-01	045163-31-33KNOW-FF	AIR	SOMERVILLE, MA	09/20/17 08:02	09/26/17
L1734400-02	045163-31-33KNOW-B	AIR	SOMERVILLE, MA	09/20/17 08:06	09/26/17

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: TUFTS ST
Project Number: 045163

Lab Number: L1734400
Report Date: 10/03/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on September 15, 2017. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 10/03/17

AIR

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

SAMPLE RESULTS

Lab ID: L1734400-01
Client ID: 045163-31-33KNOW-FF
Sample Location: SOMERVILLE, MA
Matrix: Air
Anaytical Method: 101,TO15-SIM
Analytical Date: 09/28/17 22:38
Analyst: RY

Date Collected: 09/20/17 08:02
Date Received: 09/26/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

SAMPLE RESULTS

Lab ID: L1734400-02
Client ID: 045163-31-33KNOW-B
Sample Location: SOMERVILLE, MA
Matrix: Air
Anaytical Method: 101,TO15-SIM
Analytical Date: 09/28/17 23:10
Analyst: RY

Date Collected: 09/20/17 08:06
Date Received: 09/26/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.020	0.020	--	0.136	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	83		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	87		60-140

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO15-SIM
Analytical Date: 09/28/17 16:23

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1046772-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO15-SIM
Analytical Date: 09/28/17 16:23

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1046772-4								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: TUFTS ST
Project Number: 045163
Lab Number: L1734400
Report Date: 10/03/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO15-SIM
Analytical Date: 09/28/17 16:23

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1046772-4								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST

Project Number: 045163

Lab Number: L1734400

Report Date: 10/03/17

MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1046772-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Propylene	109		-		70-130	-		
Dichlorodifluoromethane	96		-		70-130	-		
Chloromethane	102		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	96		-		70-130	-		
Vinyl chloride	100		-		70-130	-		
1,3-Butadiene	110		-		70-130	-		
Bromomethane	94		-		70-130	-		
Chloroethane	98		-		70-130	-		
Ethyl Alcohol	101		-		70-130	-		
Vinyl bromide	90		-		70-130	-		
Acetone	112		-		50-150	-		
Trichlorofluoromethane	97		-		70-130	-		
iso-Propyl Alcohol	111		-		70-130	-		
1,1-Dichloroethene	102		-		70-130	-		
tert-Butyl Alcohol[1]	86		-		70-130	-		
Methylene chloride	107		-		70-130	-		
3-Chloropropene	114		-		70-130	-		
Carbon disulfide	91		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	94		-		70-130	-		
Halothane	102		-		70-130	-		
trans-1,2-Dichloroethene	92		-		70-130	-		
1,1-Dichloroethane	100		-		70-130	-		
Methyl tert butyl ether	89		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST
Project Number: 045163

Lab Number: L1734400
Report Date: 10/03/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1046772-3								
Vinyl acetate	102		-		70-130	-		
2-Butanone	97		-		70-130	-		
cis-1,2-Dichloroethene	91		-		70-130	-		
Ethyl Acetate	99		-		70-130	-		
Chloroform	95		-		70-130	-		
Tetrahydrofuran	96		-		70-130	-		
1,2-Dichloroethane	95		-		70-130	-		
n-Hexane	114		-		70-130	-		
1,1,1-Trichloroethane	115		-		70-130	-		
Benzene	110		-		70-130	-		
Carbon tetrachloride	116		-		70-130	-		
Cyclohexane	115		-		70-130	-		
Dibromomethane[1]	95		-		70-130	-		
1,2-Dichloropropane	115		-		70-130	-		
Bromodichloromethane	123		-		70-130	-		
1,4-Dioxane	111		-		50-150	-		
Trichloroethene	104		-		70-130	-		
2,2,4-Trimethylpentane	120		-		70-130	-		
cis-1,3-Dichloropropene	118		-		70-130	-		
4-Methyl-2-pentanone	**132**	Q	-		70-130	-		
trans-1,3-Dichloropropene	104		-		70-130	-		
1,1,2-Trichloroethane	114		-		70-130	-		
Toluene	103		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS ST

Project Number: 045163

Lab Number: L1734400

Report Date: 10/03/17

MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1046772-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
2-Hexanone	123		-		70-130	-		
Dibromochloromethane	113		-		70-130	-		
1,2-Dibromoethane	105		-		70-130	-		
Tetrachloroethene	96		-		70-130	-		
Chlorobenzene	102		-		70-130	-		
Ethylbenzene	104		-		70-130	-		
p/m-Xylene	106		-		70-130	-		
Bromoform	116		-		70-130	-		
Styrene	101		-		70-130	-		
1,1,2,2-Tetrachloroethane	113		-		70-130	-		
o-Xylene	109		-		70-130	-		
1,2,3-Trichloropropane[1]	102		-		70-130	-		
Bromobenzene[1]	100		-		70-130	-		
1,3,5-Trimethylbenzene	107		-		70-130	-		
1,2,4-Trimethylbenzene	108		-		70-130	-		
Benzyl chloride	113		-		70-130	-		
1,3-Dichlorobenzene	104		-		70-130	-		
1,4-Dichlorobenzene	102		-		70-130	-		
1,2-Dichlorobenzene	101		-		70-130	-		
1,2,4-Trichlorobenzene	107		-		50-150	-		
Naphthalene	104		-		50-150	-		
1,2,3-Trichlorobenzene	97		-		70-130	-		
Hexachlorobutadiene	97		-		50-150	-		

Project Name: TUFTS ST

Project Number: 045163

Lab Number: L1734400

Report Date: 10/03/17

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1734400-01	045163-31-33KNOW-FF	0443	Flow 5	09/15/17	249359		-	-	-	Pass	3.3	3.2	3
L1734400-01	045163-31-33KNOW-FF	599	6.0L Can	09/15/17	249359	L1731913-01	Pass	-30.0	-5.7	-	-	-	-
L1734400-02	045163-31-33KNOW-B	0965	Flow 5	09/15/17	249359		-	-	-	Pass	3.1	3.2	3
L1734400-02	045163-31-33KNOW-B	2059	6.0L Can	09/15/17	249359	L1731913-01	Pass	-30.0	-8.1	-	-	-	-

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 09/12/17 14:49
Analyst: RY

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethyl Alcohol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Isopropyl Ether	ND	0.200	--	ND	0.836	--		1
Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl Acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane (C9)	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
o-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
p-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane (C10)	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane (C12)	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	87		60-140

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/12/17 14:49
Analyst: RY

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Ethyl Alcohol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Project Name:

Lab Number: L1731913

Project Number: CANISTER QC BAT

Report Date: 10/03/17

Air Canister Certification Results

Lab ID: L1731913-01
Client ID: CAN 1995 SHELF 46
Sample Location:

Date Collected: 09/08/17 16:00
Date Received: 09/11/17
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,3-Trichloropropane	ND	0.020	--	ND	0.121	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	91		60-140

Project Name: TUFTS ST
Project Number: 045163

Lab Number: L1734400
Report Date: 10/03/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1734400-01A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)
L1734400-02A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST	**Lab Number:**	L1734400
Project Number:	045163	**Report Date:**	10/03/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report

Project Name:	TUFTS ST	**Lab Number:**	L1734400
Project Number:	045163	**Report Date:**	10/03/17

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	TUFTS ST	**Lab Number:**	L1734400
Project Number:	045163	**Report Date:**	10/03/17

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/26/17

ALPHA Job #: L1734400

Client Information

Client: GEI Consultants
Address: 400 Unicorn Park Dr
Woburn, MA 01801
Phone: 781 721 4000
Fax: 781 721 4073
Email: labdata@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joseph Roman
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☒ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm
MA	MCP	RCS.

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
34400-01	045163-31-33KNOW-FF	9/20/17	0835	0802	30.65	6.50	IA	CMM	6L	599	0443	X					
02	045163-31-33KNOW-B	9/20/17	0840	0806	30.17	7.14	IA	CMM	6L	2059	0965	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
C. Malagrida	9/20/17 0930	GEI Field Room	9/20/17 0930
GEI Field Room	9/26/17 1135	Tara Walsh	9/26/17 1140
Tara Walsh	9/26/17 1140	Josh Sc AAL	9/26/17 11:40
AAL	9/26/17 16:35		9/26/17 1635

9/26/17 1919

Appendix D

Pre-Sampling Checklists, Air Sampling Checklists, and Photo Logs

GEI Consultants

AIR SAMPLING CHECKLIST

Sampling Location: 31-33 Knowlton Street Basement

Sample ID: 045163-3133-KNOW-B

Date: 9/19/2017

Sampling personnel: C. Malagrida

Summa Canister ID: 2059

Flow Regulator ID: 0965

Sample Type / Analysis Method: TO15/Summa

Sampling Start Time: 0840

Sampling Finish Time: 0806

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**

Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.17 in. Hg

Pressure gauge reading (After sample collected): Flow Controller: -7.14 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	70.9°	65.2°
Barometric Pressure (in. Hg):	30.02	30.17
Prevailing Wind Direction:	Calm	Calm
General Weather Conditions:	Overcast	Rain

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	64.2°	63.2°
Barometric Pressure (in. Hg):	30.02	30.17

PID readings at sample location (ppm): 0.0

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by: NA**

Photographs taken after sampling? Yes / **No** **If Yes, what time: NA** **Taken by: NA**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**

Windows open? Yes / **No** **Ventilation fans? Yes** / No (Heating)

Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / No

Were any of the residents home during sampling? Yes / No **If yes, provide detail:** Tenants

Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process, as well as a sketch of the sampling location and sample setup indicating height of air intake from ground surface:

Air intake at 38 inches.

Appendix E

Field Monitoring Forms and Inspection Logs

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Neff	**Monitoring Start Time:**	2:00 PM
		Monitoring End Time:	3:00 PM
Date:	07/24/17		
Weather:	60°F, raining		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 99.9 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-3.263	3.1
Center Header	-3.237	3.9
East Header	-2.923	2.6
North Header	-3.193	8.0
South Header	-2.948	28.7
Combined System Influent	-6.81	4.1
Blower Effluent	39.83	4.4
Lead Carbon Effluent	39.03	0.0
Secondary Carbon Effluent	1.47	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
3768	329

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Neff	**Monitoring Start Time:**	6:35 AM
		Monitoring End Time:	6:55 AM
Date:	08/31/17		
Weather:	65°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	4.4
Blower Effluent	NM	5.6
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.2
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	4:05 PM
		Monitoring End Time:	4:35 PM
Date:	10/03/17		
Weather:	70°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	4.4
Blower Effluent	NM	5.3
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	4:30 PM
		Monitoring End Time:	5:15 PM
Date:	10/17/17		
Weather:	60°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.580	1.5
Center Header	-2.610	2.7
East Header	-2.640	1.3
North Header	-2.660	5.6
South Header	-2.670	23.6
Combined System Influent	-6.45	3.2
Blower Effluent	-40.31	6.6
Lead Carbon Effluent	35.19	0.0
Secondary Carbon Effluent	1.58	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	15	
Blower Filter Outlet	0	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
3406	297

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Neff	**Monitoring Start Time:**	1:50 PM
		Monitoring End Time:	2:40 PM
Date:	11/08/17		
Weather:	50°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.3 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.363	6.5
Center Header	-2.389	12.8
East Header	-2.379	4.4
North Header	-2.495	7.4
South Header	-2.426	23.3
Combined System Influent	-6.31	6.5
Blower Effluent	39.69	9.2
Lead Carbon Effluent	35.37	0.6
Secondary Carbon Effluent	1.53	0.5
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.2
Blower Filter Inlet	15	
Blower Filter Outlet	NA	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
3898	340

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

Blower filter outlet gauge broken. Confirmed with blower effluent readings (manometer).
Observed break-through at Carbon Effluent. Indicated to Joe Roman and he confirmed we have scheduled a carbon change.

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Neff	**Monitoring Start Time:**	7:30 AM
	M. Greer	**Monitoring End Time:**	12:15 PM
Date:	12/06/17		
Weather:	50°F, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 99.3 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration	
Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	6.0/5.0
Blower Effluent	NM	7.5/6.4
Lead Carbon Effluent	NM	2.4/0.0
Secondary Carbon Effluent	NM	1.4/0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data	
Velocity (ft/min)	**System Flowrate (CFM):**
NM	NM

Tank Exterior Monitoring	
Bubbling Paint Visible?	
Tank	**Y/N**
A	Yes
B	Yes
C	Yes
Rust Visible?	
Tank	**Y/N**
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

Concentrations were measured prior to blower shutdown for carbon change. Shutdown at 8:00 AM. Carbon Filtration Systems (CFS) performed carbon change and indicated screens were in good condition. Restarted blower at 11:20 AM. Final concentrations were measured at 12:00PM.

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Neff	**Monitoring Start Time:**	1:30 PM
		Monitoring End Time:	1:50 PM
Date:	07/24/17		
Weather:	~60°F, raining		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE 3000	592-909246	100 ppm Isobutylene Time: 1:20 PM	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	-16.10	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	11	
Blower Filter Outlet	24	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data

Velocity (feet per minute)	System Flowrate (CFM): = (PI * r^2) * ft per min
2736	234

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	J. Neff	**Monitoring Start Time:**	1:05 PM
		Monitoring End Time:	1:30 PM
Date:	11/07/17		
Weather:	~50°F, cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE 3000	592-909246	100 ppm Isobutylene Time: 1:20 PM	**Y** / N Cal. Reading (ppm): 103.1
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	-16.36	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	11	
Blower Filter Outlet	24	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data

Velocity (feet per minute)	System Flowrate (CFM): = (PI * r^2) * ft per min
2461	210

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	J. Neff	Start-time of monitoring work:	5:30 PM	NA
Date:	07/31/17	End-time of monitoring work:	6:45 PM	NA
Weather:	~85° F, Sunny			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000	592-909246	100 ppm Isobutylene	99.5 ppm
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Kanomax	A034	050183	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? NA

Condensate Drained? NA

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	89
Manifold 13	72
Manifold 14	85

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.792	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.331	0 to 2000	0.0
Manifold 14	-0.300 to -0.500	-0.792	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.600	0.0
122-2	on	-0.615	0.0
122-3	on	-0.581	0.0
126-1	on	-0.551	0.4
126-2	on	-0.428	0.0
126-3	on	-0.470	0.0
134-1	on	-1.086	0.0
134-2	on	-1.191	0.0
134-3	on	-1.140	0.0
138-1	on	-1.190	0.0
138-2	on	-1.171	0.0
138-3	on	-1.148	0.0
142-1	on	-0.543	0.0
142-2	on	-0.558	0.0
142-3	on	-0.545	0.4
146-1	on	-0.536	0.0
146-2	on	-0.532	0.0
146-3	on	-0.523	0.0

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	J. Neff	Start-time of monitoring work:	1:35 PM	NA
Date:	11/07/17	End-time of monitoring work:	2:55 PM	NA
Weather:	~50° F, cloudy			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000	592-909246	100 ppm Isobutylene	103.1 ppm
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Kanomax	A034	050183	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? NA

Condensate Drained? NA

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	78
Manifold 13	63
Manifold 14	73

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.807	0 to 2000	1.0
Manifold 13	-0.300 to -0.500	-1.513	0 to 2000	1.2
Manifold 14	-0.300 to -0.500	-0.886	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.595	0.2
122-2	on	-0.616	0.2
122-3	on	-0.590	0.5
126-1	on	-0.589	0.5
126-2	on	-0.453	0.7
126-3	on	-0.514	0.7
134-1	on	-1.236	0.6
134-2	on	-1.343	1.1
134-3	on	-1.245	1.3
138-1	on	-1.345	1.5
138-2	on	-1.324	1.2
138-3	on	-1.314	1.0
142-1	on	-0.597	1.3
142-2	on	-0.616	1.7
142-3	on	-0.588	2.2
146-1	on	-0.581	1.2
146-2	on	-0.574	1.7
146-3	on	-0.571	2.2

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

1. Observed PID drift. Likely due to moisture in subsurface. Discussed with Joe Roman and will return for grab readings at a later time.

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.

Appendix F

Waste Disposal Manifest

RI-012559

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	MAC300011277	1	800-698-1865	017646957 JJK

GENERATOR

5. Generator's Name and Mailing Address
Unifirst Corporation
68 Jonspin Road
Wilmington MA 01887
Generator's Phone: 978 658-8888

Generator's Site Address (if different than mailing address)
Unifirst Corporation
50 Tufts Street
Somerville MA 02143

6. Transporter 1 Company Name
New England Disposal Technologies, Inc.
U.S. EPA ID Number
MAC300008059

7. Transporter 2 Company Name
NRC EAST ENVSVC
U.S. EPA ID Number
MAC300009839 R

8. Designated Facility Name and Site Address
ENPRO Services of Vermont, Inc.
54 Avenue D
Williston VT 05495
Facility's Phone: 802 860-1200
U.S. EPA ID Number
VTR000517052

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ NA3077, Hazardous waste, solid, n.o.s. (carbon, perchloroethylene) 9, PGIII (RQ D039)	18	DM	5400	P	D039	U210	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1)79443 VT-1017-27230 ERG#171

Job# 01-19701

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: TIM COSGRAVE
Signature:
Month: 12 Day: 6 Year: 17

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Franklin E. Forbes
Signature:
Month: 12 Day: 6 Year: 17

Transporter 2 Printed/Typed Name: Cordell Stitt
Signature:
Month: 12 Day: 7 Year: 17

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Jeffrey A Baker
Signature:
Month: 12 Day: 11 Year: 17

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)